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SCS ENGINEERS

Results of Additional Subsurface Investigation and Request for Case Closure

1599 Hampton Way
Santa Rosa, California
(NCRWQCB Site #1TSO082)
(Assessor's Parcel No. 125-081-021)

File Number 01203314.00

Prepared by:

SCS Engineers
3645 Westwind Boulevard
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To:

Mr. Stephen Bargsten
North Coast Regional Water Quality Control Board
5550 Skyland Boulevard, Suite A
Santa Rosa, California 95403

June 27, 2005

LIMITATIONS/DISCLAIMER

The following investigation report has been prepared for the Judith Johnson Trust with specific application to additional subsurface exploration for the property located at 1599 Hampton Way, Santa Rosa, California. This report has been prepared in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances, in this or similar localities. The conclusions contained herein are based on analytical data, and points of exploration. The nature and extent of subsurface conditions may and likely do vary between borings and/or points of exploration. No other warranty, either expressed or implied, is made as to the professional conclusions presented herein.

Access to the Property was limited by buildings, automotive traffic, underground and aboveground utilities, and other miscellaneous site features. Therefore, the field exploration and points of subsurface observation were somewhat restricted.

Changes in site use and conditions may occur due to man-made changes or variations in rainfall, temperature, water usage, or other factors. Additional information which was not available to the consultant at the time of this assessment or changes which may occur on the site or in the surrounding area may result in modification to the site and the vicinity that would impact the summary presented herein. This report is not a legal opinion.

We trust this report provides the information you require at this time and we appreciate the opportunity to work with you on this project. If you require any additional information, or have any questions, please do not hesitate to contact SCS at (707) 546-9461.

KLC

Kevin L. Coker REA 7887
CA registration fees paid through 06/30/05

6/27/05

Date

Stephen Knuttel

Stephen Knuttel PG 7674
CA registration fees paid through 07/31/05

27 JUNE, 2005

Date

Introduction

SCS Engineers (SCS) is pleased to present the results of the additional subsurface investigation performed at 1599 Hampton Way, Santa Rosa, California. The site investigation was performed in accordance with SCS's Work Plan dated June 21, 2004 (SCS, 2004b), which was approved by the North Coast Regional Water Quality Control Board (NCRWQCB, 2004b). The site is located as shown on the Site Plan, Figure 1; general site features are as shown on the Site Location Map, Figure 2.

Background

Information in the NCRWQCB's file for the site indicated that two underground storage tanks (USTs), a 2,000-gallon UST and a 550-gallon UST, both of which were reported to store gasoline, were located at the site. A letter to the NCRWQCB from Mr. Allen L. Leepin, the Vice-President/Secretary/Treasurer of Frontier Electric (Leepin, 1989), indicated that the USTs were removed in March 1986 and were empty at the time of removal. The NCRWQCB's files did not contain information regarding who removed the USTs from the site, details of overexcavation and backfilling activities, or the method of treatment and/or disposal of any excavated soil.

A "Stockpile" soil sample and an "Evacuation" groundwater sample were collected during the UST removal activities (Multi-Tech Laboratories [Multi-Tech], 1986; NCRWQCB, 1999). The "Stockpile" soil sample contained benzene, toluene, and xylenes at concentrations which were less than 10 milligrams per kilogram (mg/kg) (NCRWQCB, 1999). The "Evacuation" groundwater sample collected from the excavation pit contained TPH-g at a concentration of 2,700 micrograms per liter (ug/L), benzene at a concentration of 840 ug/L, 1,700 ug/L toluene, and 2,800 ug/L xylenes (NCRWQCB, 1999). Based on the analytical results from the UST excavation and stockpile sampling, the NCRWQCB issued a letter directing that the property owner perform a preliminary site assessment (NCRWQCB, 1989). Mr. Leepin subsequently requested that the NCRWQCB contact M.J. Enterprises (Ms. Judith Johnson), the property owner, regarding the site assessment requirements.

In early 1996, Pacific Northwest EnviroNet group, Inc. (PNEG[1]) was retained to prepare a work plan to address investigation and cleanup of soils and groundwater at the site. PENG subsequently prepared and submitted a work plan for a preliminary site investigation (PNEG, 1996a).

In accordance with the 1996 work plan (PNEG, 1996a), eight soil borings (B-1 through B-8) were drilled and sampled at the approximate locations shown on Figure 2 in August 1996 (PNEG, 1996b). Analytical results for soil and groundwater samples indicated detectable concentrations of hydrocarbons in borings B-6 and B-7. Soil and groundwater analytical results are summarized on Tables 1 and 2. Based on the results of the August 1996 investigation, the NCRWQCB requested that a monitoring well be installed south of the former UST locations in the general vicinity of borings B-5, B-6, and B-7 (NCRWQCB, 1997). PNEG subsequently submitted a work plan to the

1 Pacific Northwest EnviroNet group, Inc. became a part of SCS in July 2003.

NCRWQCB (PNEG, 1997). In accordance with the 1997 work plan, one monitoring well (MW-1) was drilled, sampled, and installed at the approximate location shown on Figure 2 in March 1998 (PNEG, 1998a). The soil samples collected from MW-1 at depths of 5 and 10 feet below existing ground surface (bgs) were below the laboratory report detection limit (RDL) for all target analytes. The soil sample collected at 13.5 feet bgs contained 39 mg/kg TPH-g, 0.0072 mg/kg ethylbenzene, and 0.010 mg/kg xylenes (PNEG, 1998a). Soil analytical results are summarized in Table 3.

Two additional monitoring wells (MW-2 and MW-3) were drilled, sampled, and installed at the approximate locations shown on Figure 2 in September 1999 (PNEG, 2000a). Soil samples collected from MW-2 and MW-3 were below the laboratory RDL for all target analytes. Soil analytical results are summarized in Table 3.

Based on the results of the 1999 investigation findings, the NCRWQCB issued a letter directing additional investigation at the site (NCRWQCB, 2001). Subsequently, two additional monitoring wells (MW-4 and MW-5) were drilled, sampled and installed at the approximate locations shown on Figure 2 in November 2002 (PNEG, 2003a). Soil samples collected from MW-4 and MW-5 were below the laboratory RDL for all target analytes. Soil analytical results are presented in Table 3.

Sensitive Receptor Survey

A sensitive receptor survey was performed for the site in May 2001 (PNEG, 2001a); a supplemental SRS was performed in 2004 (SCS, 2004a). The survey was conducted on May 16, 2001, and included all properties within a 500 foot radius of the subject site. A review of Santa Rosa City Utility records was conducted, as well as interviews at all properties within the search area not connected to the municipal water utility. Six domestic wells were identified within the target area, the nearest of which are within approximately 200 feet of the subject site. Groundwater in the site vicinity is drawn for domestic, commercial, and agricultural uses. A review of available DWR Well Logs for domestic wells in the site vicinity indicates well depths ranging from approximately 50 feet to 250 feet, and are generally sealed to at least 20 feet bgs. The approximate locations of the wells within the requested search radius are as shown on Figure 4. Results of the door-to-door survey are presented in Table 6.

In response to the NCRWQCB's request for additional information (NCRWQCB, 2004) with respect to the previously submitted SRS (PENG, 2001a), the following information was reported (SCS, 2004). Local utility companies and the property owner were contacted by SCS regarding the possible presence of utility trenches between MW-1 and MW-3 which may act as groundwater conduits. There are sewer, water, and gas lines running along Hampton Way adjacent to the site at the approximate locations shown on Figure 2. The only subsurface feature known to the property owner in the vicinity of MW-1 and MW-3 was reported to be a sewer line running from the street toward the site building. The property owner indicated that to the best of his knowledge, it is in the vicinity of the former UST location (Figure 2). The sewer manhole cover observed at the approximate location shown on Figure 2 suggests that a sewer line is located near the former UST location, as shown on Figure 2.

Recorded depth to groundwater in the monitoring wells has ranged from approximately 3.5 feet bgs to approximately 16.5 bgs (Table 5). Typically the sewer is the deepest of the utility trenches and can be as deep as 6 to 8 feet bgs; however, the City of Santa Rosa Utility map indicates that the sewer line adjacent to the site is approximately 3.5 feet bgs. The other trenches present are not likely to be substantially deeper than this. It was therefore concluded that none of the nearby trenches would provide a significant preferential groundwater pathway in the vicinity of the site.

Site Conceptual Model
Site Geology/Hydrogeology

The site is located within the southwest area of Santa Rosa and is surrounded by a mix of commercial, light industrial and residential properties. Beneficial uses of groundwater in the site vicinity are residential, industrial, and commercial.

The site lithology is best characterized as clayey material with fine gravel and sand from near surface to approximately 10 feet bgs; this layer is underlain by fine to coarse gravel with silt and sand present from approximately 10 feet to nearly 20 feet bgs. Silt and sandy silt is present from approximately 20 feet to 30-35 feet bgs. Typically material has been observed to be moist to wet around 10 to 15 feet bgs to 30 to 35 feet bgs, the maximum depth explored at the site.

Free groundwater is likely present during winter and spring (during times of elevated rainfall) in the gravel layer to approximately 10 ft bgs, according to site lithology and historical groundwater level measurements from the onsite monitoring wells. The groundwater flow direction at the site has ranged from northwest to southwest at gradients from 0.03 to 0.1 (Table 5).

Borings - 2005

A work plan was submitted to the NCRWQCB proposing three additional soil borings at the site in order to evaluate the deeper water-bearing zone beneath the site (SCS, 2004b). The NCRWQCB provided written approval of this work plan by regulatory letter (NCRWQCB, 2004b).

Three additional borings (B-09, B-10 and B-11) were advanced to approximately 30 -35 feet bgs using 7-inch hollow-stem augers on June 1, 2005. The borings are located as shown on Figure 2. The soil from the borings was subjectively screened with a PID and by visual appearance and odor. Soil samples were collected and examined for lithology from each boring at depths ranging from approximately 10 feet bgs to 31 feet bgs. In accordance with the work plan, no soil samples were submitted for analysis from the borings. Groundwater samples were collected from each of the borings using a Hydropunch® from the deeper water-bearing zone. Grab groundwater samples were collected at depths between 30 to 35 feet bgs (B-09-W@35.0', B-10-W@30.0' and B-11-W@30.0') using a separate disposable bailer for each sample, and were transferred from the disposable bailer to appropriate containers supplied by the laboratory for analysis. Groundwater samples were labeled, stored under refrigerated conditions, and transported under Chain-of-Custody documentation to

Analytical Sciences (AS) of Petaluma, California for analysis. AS is a California Department of Health Services certified laboratory for the analysis requested. Copies of AS' current certifications have been reviewed and are on file. Upon completion of sampling activities, the borings were backfilled and sealed with an impermeable material as designed by the C-57 licensed driller to prevent the vertical migration of petroleum hydrocarbons in the borehole.

The augers were pressure washed between borings, and the small sampling equipment was washed in a detergent solution and rinsed to prevent cross contamination between borings. The drill cuttings and water generated by decontamination and sampling activities are stored at the site in steel 55-gallon UN/DOT-approved drums, pending disposal. Options for the disposal of the soil and groundwater are being evaluated.

Laboratory Analysis

The grab groundwater samples collected from each boring (B-09-W@35.0', B-10-W@30.0' and B-11-W@30.0') were analyzed for TPH-g by EPA Method 8015M, and for VOCs and the five ether-based oxygenates (MTBE, DIPE, ETBE, TAME, and TBA) by EPA Method 8260B.

Groundwater Analytical Results

The groundwater samples collected from B-09, B-10, and B-11 were below the laboratory RDL for all target analytes, with the exception of toluene which was detected at 14 micrograms per liter (μg/L) and 1.6 μg/L, in samples B-09-W@35.0 and B-11-W@30.0, respectively. Groundwater analytical results are presented in Table 2.

Discussion and Closure

The detections of toluene in the samples collected from B-09 and B-11 are suspect due to the fact that no additional VOCs were detected in the groundwater samples. Further, toluene is known to be a component of the adhesive in duct tape which was used to tape the rods during the drilling procedures. Based on this information, it appears that the detections of toluene in the two grab groundwater samples are likely the result of the adhesive in the duct tape which was applied to the sampling rods to isolate the upper water-bearing zone from the deeper zone being sampled. The toluene concentrations detected in samples B-09-W@35.0' and B-11-W@30.00 are well below the Maximum Contaminant Level (MCL) of 1,000 ug/L established by EPA for National Drinking Water Standards.

Recent and historical analytical data for soil and groundwater indicate that the lateral extent of the groundwater impact, as well as the lateral and vertical extent of soil impact has been adequately assessed. With the exception of B-6, B-7, and MW-1, soil samples collected from eight borings and five monitoring well borings have been below the laboratory RDL for all target analytes.

Groundwater samples collected from MW-2, MW-3, MW-4, and MW-5 have never contained TPH-g above the laboratory RDL; benzene has only been detected above 1.0 ug/L in MW-2 through MW-5 on four occasions (all of which occurred in samples collected from MW-2), and benzene has not been detected above the laboratory RDL in MW-2 since November 2002.

A review of Diagram A indicates a general decline, or at least stabilization, in TPH-g concentrations in MW-1 over time since 1998. In addition, Diagram B indicates a general decline in BTEX constituents in MW-1 with the maximum concentration of benzene of 5.2 ug/L occurring in October 2000. Analytical data for TPH-g and VOCs in MW-2 through MW-5 groundwater samples are generally below the laboratory RDL or only slightly above the RDL. The most recent sampling event at the site occurred on January 26, 2004; groundwater samples collected from MW-2, MW-3, MW-4 and MW-5 were below laboratory RDLs for all target analytes.

The sensitive receptor survey revealed preferential pathways at the site and site vicinity. Based on the non-detect concentrations in MW-2 through MW-5, it is not expected that onsite preferential pathways identified are acting as conduits for contaminant transport. In addition, occupants with domestic wells in the general down-gradient direction from the site have been reported to use bottled drinking water; and further, given that no public drinking water wells are located within 1 mile of the subject site, the threat to human health by the minimal residual groundwater impact in the immediate vicinity of MW-1 is unlikely.

Given the information generated to date, the limited residual groundwater impact which has been reported in MW-1 does not appear to pose a threat of migrating off site; is not increasing over time; has been generally assessed both vertically and laterally; and does not pose a threat to any nearby sensitive receptors, SCS recommends the site be considered for case closure. Upon receipt of NCRWQCB concurrence with this recommendation, the project monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5 will be decommissioned in accordance with the "California Well Standards", Bulletin 74-90 by a licensed C-57 well driller and their locations restored to their original conditions to the extent feasible.

Attachments
File No. 01203314.00

Figures
Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Site Plan - Groundwater Flow Direction and Gradient for 01/26/04
Figure 4: Sensitive Receptor Map

Diagrams and Tables
Key to Diagram and Tables
Diagram A: TPH-g & Groundwater Elevation vs Time
Diagram B: BTEX & Groundwater Elevation vs Time – MW-1
Diagram C: BTEX & Groundwater Elevation vs Time – MW-2
Diagram D: BTEX & Groundwater Elevation vs Time – MW-3
Diagram E: MTBE & Groundwater Elevation vs Time
Table 1: Soil Sample Analytical Results – Borings B-1 through B-8
Table 2: Groundwater Sample Analytical Results – Borings B-1 through B-11
Table 3: Soil Sample Results – Monitoring Wells – MW-1 through MW-5
Table 4: Groundwater Sample Analytical Results – MW-1 through MW-5
Table 5: Groundwater Flow Direction and Gradient – 1998 to 2004
Table 6: Sensitive Site Receptor Survey Results

Appendices
Appendix A
Unified Soil Classification System Chart and Boring Log Legend
Boring Logs for B-09 through B-11
Appendix B
Analytical Sciences Report #5060201, dated June 10, 2005

Reference List
File No. 01203314.00

Leepin, A., 1989. Letter to NCRWQCB re: UST Removal, October 31.
Multi-Tech, 1986. Analytical report, March 4.
NCRWQCB, 1989. Work Plan Directive, November 13.
NCRWQCB, 1997. Work Plan Directive, June 6.
NCRWQCB, 1999. Regulatory letter to USTCF, February 11.
NCRWQCB, 2001. Work Plan Directive, November 21.
NCRWQCB, 2004a. Request Additional Information for SRS, January 8.
NCRWQCB, 2004b. Work Plan Approval, August 17.
PNEG, 1996a. Work Plan for a Preliminary Site Investigation at the 1599 Hampton Way Site, Santa Rosa, California, February 5.

PNEG, 1996b. Preliminary Site Investigation Report for the 1599 Hampton Way Site, Santa Rosa, California, November 22.
PNEG, 1997. Work Plan for Additional Site Investigation at the 1599 Hampton Way Site, Santa Rosa, California, December 12.
PNEG, 1998a. Report on Additional Site Investigation at the 1599 Hampton Way Site, Santa Rosa, California, May 19.
PNEG, 1998b. Work Plan for Additional Site Investigation at the 1599 Hampton Way Site, Santa Rosa, California, August 5.
PNEG, 1998c. Report on Quarterly Monitoring at the 1599 Hampton Way Site, Santa Rosa, California, September 1.
PNEG, 1999. Work Plan Revision for Additional Site Investigation at the 1599 Hampton Way Site, Santa Rosa, California, March 30.
PNEG, 2000a. Report on Additional Site Investigation at 1599 Hampton Way, Santa Rosa, California, February 3.
PNEG, 2000b. Report on January 2000 Quarterly Groundwater Monitoring Event at 1599 Hampton Way, Santa Rosa, California, March 14.
PNEG, 2000c. Report on 2nd Quarter 2000 Groundwater Monitoring Event at 1599 Hampton Way, Santa Rosa, California, June 26.
PNEG, 2000d. Report on 3rd Quarter 2000 Groundwater Monitoring Event at 1599 Hampton Way, Santa Rosa, California, September 5.
PNEG, 2000e. Report on 4th Quarter 2000 Groundwater Monitoring Event at 1599 Hampton Way, Santa Rosa, California, December 4.
PNEG, 2001a. Report on 1st Quarter 2001 Groundwater Monitoring Event at 1599 Hampton Way, Santa Rosa, California, June 6.
PNEG, 2001b. Work Plan for an Additional Site Investigation at the 1599 Hampton Way, Santa Rosa, California, June 14.
PNEG, 2002a. Work Plan Addendum for an Additional Site Investigation - 1599 Hampton Way, Santa Rosa, California, January 15.
PNEG, 2002b. Results of the 4th Quarter 2001 Groundwater Monitoring and Sampling Event at 1599 Hampton Way, Santa Rosa, California, February 14.
PNEG, 2002c. Results of the 1st Quarter 2002 Groundwater Monitoring and Sampling Event at 1599 Hampton Way, Santa Rosa, California, April 26.
PNEG, 2002d. Results of the 2nd Quarter 2002 Groundwater Monitoring and Sampling Event at 1599 Hampton Way, Santa Rosa, California, June 28.
PNEG, 2002e. Results of the 3rd Quarter 2002 Groundwater Monitoring and Sampling Event at 1599 Hampton Way, Santa Rosa, California, September 25.
PNEG, 2003a. Report on the Results of Additional Site Investigation - 1599 Hampton Way, Santa Rosa, California, January 7.
PNEG, 2003b. Results of the 1st Quarter 2003 Groundwater Monitoring and Sampling Event - 1599 Hampton Way, Santa Rosa, California, March 14.
PNEG, 2003c. Results of the 2nd Quarter 2003 Groundwater Monitoring and Sampling Event - 1599 Hampton Way, Santa Rosa, California, June 22.
SCS, 2003. Results of the 3rd Quarter 2003 Groundwater Monitoring and Sampling Event - 1599 Hampton Way, Santa Rosa, California, October 21.
SCS, 2004a. Results of the 1st Quarter 2004 Groundwater Monitoring and Sampling Event - 1599

Hampton Way, Santa Rosa, California, February 18.
SCS, 2004b. Work Plan for an Additional Site Investigation – 1599 Hampton Way, Santa Rosa, California, June 21.

Distribution List
File No. 01203314.00

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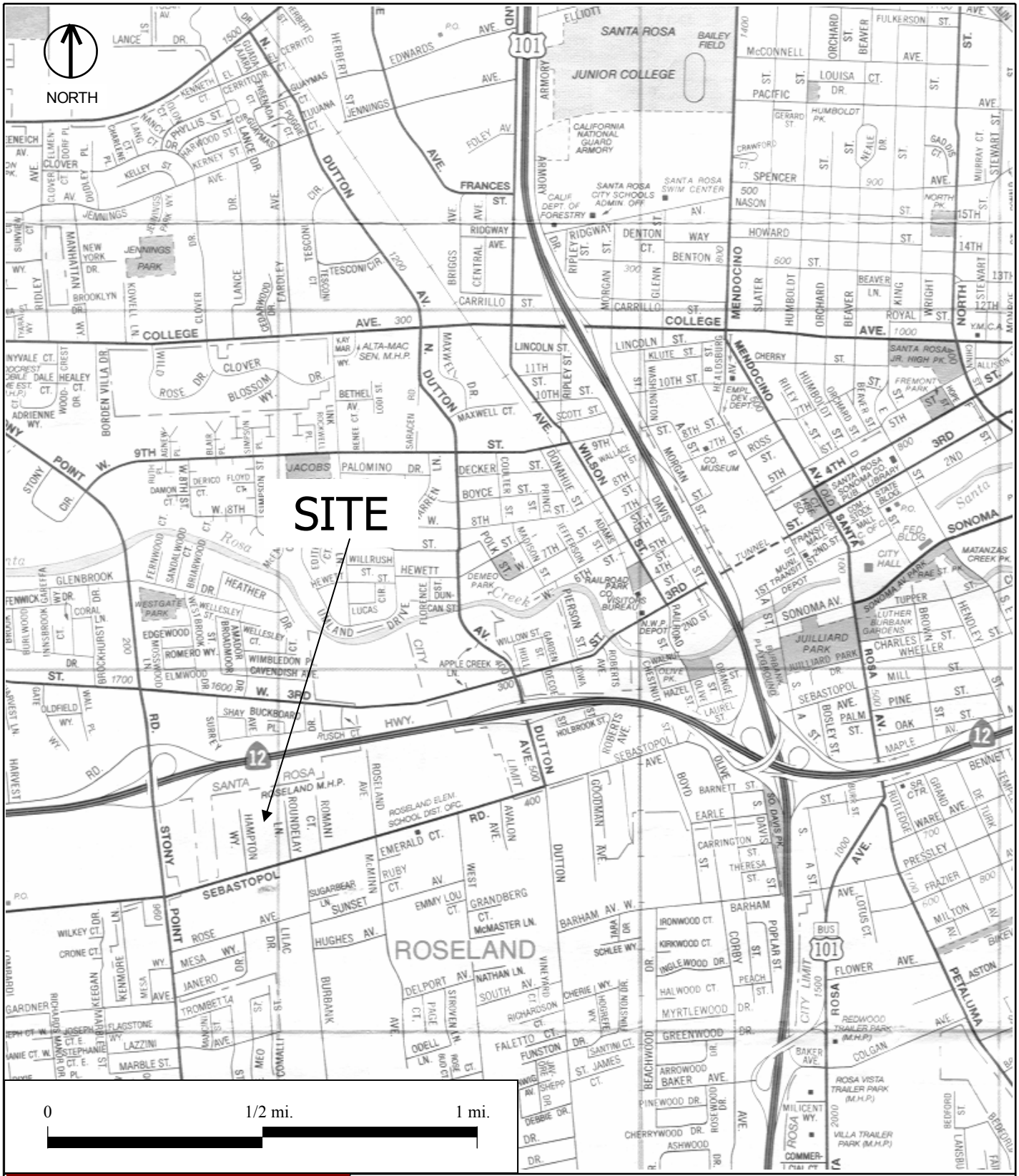
Figures



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Site Location Map

Phil Johnson
1599 Hampton Way
Santa Rosa, California

FIGURE
1

Drawn by:	File Name:		Job Number:		Date:
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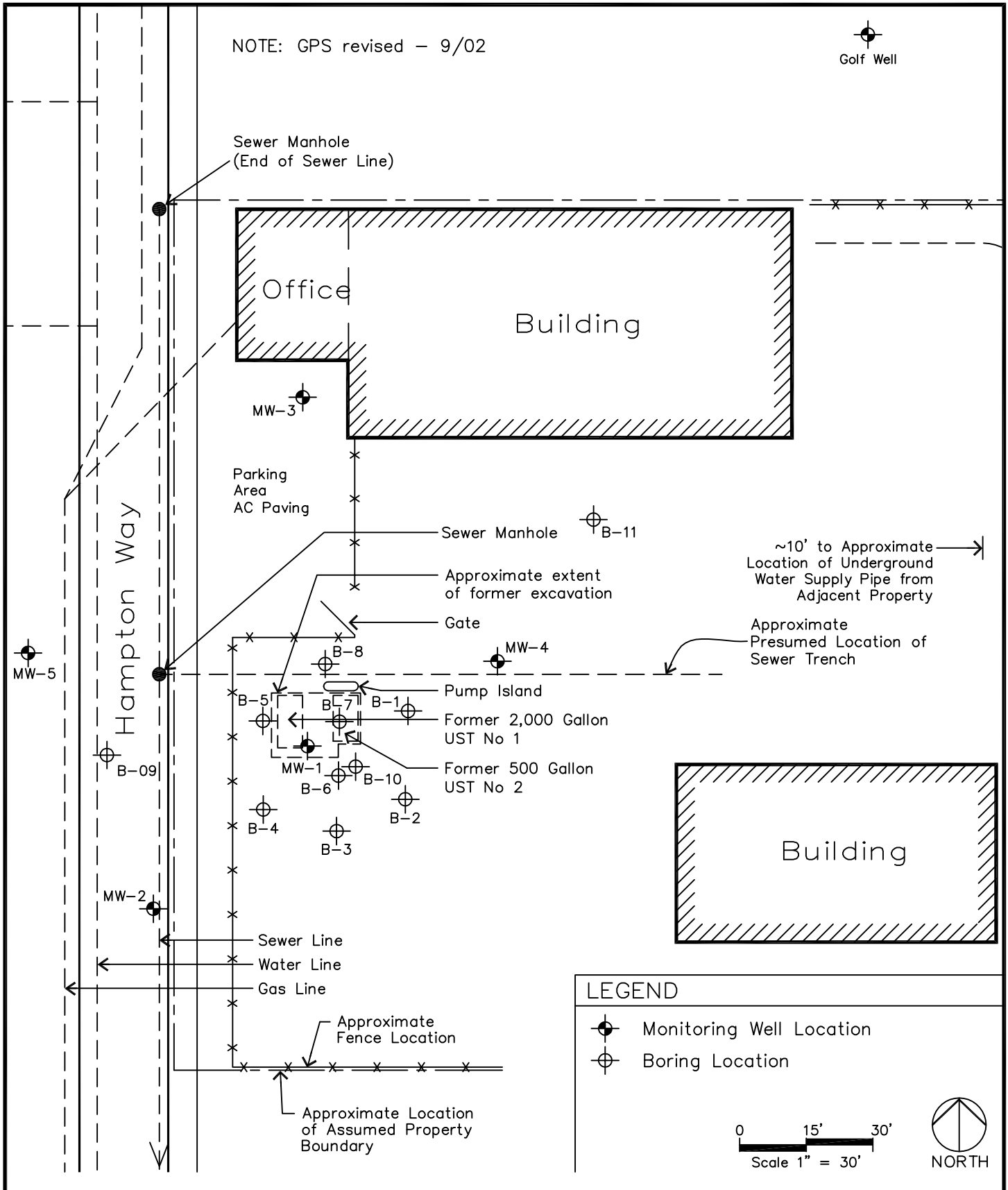

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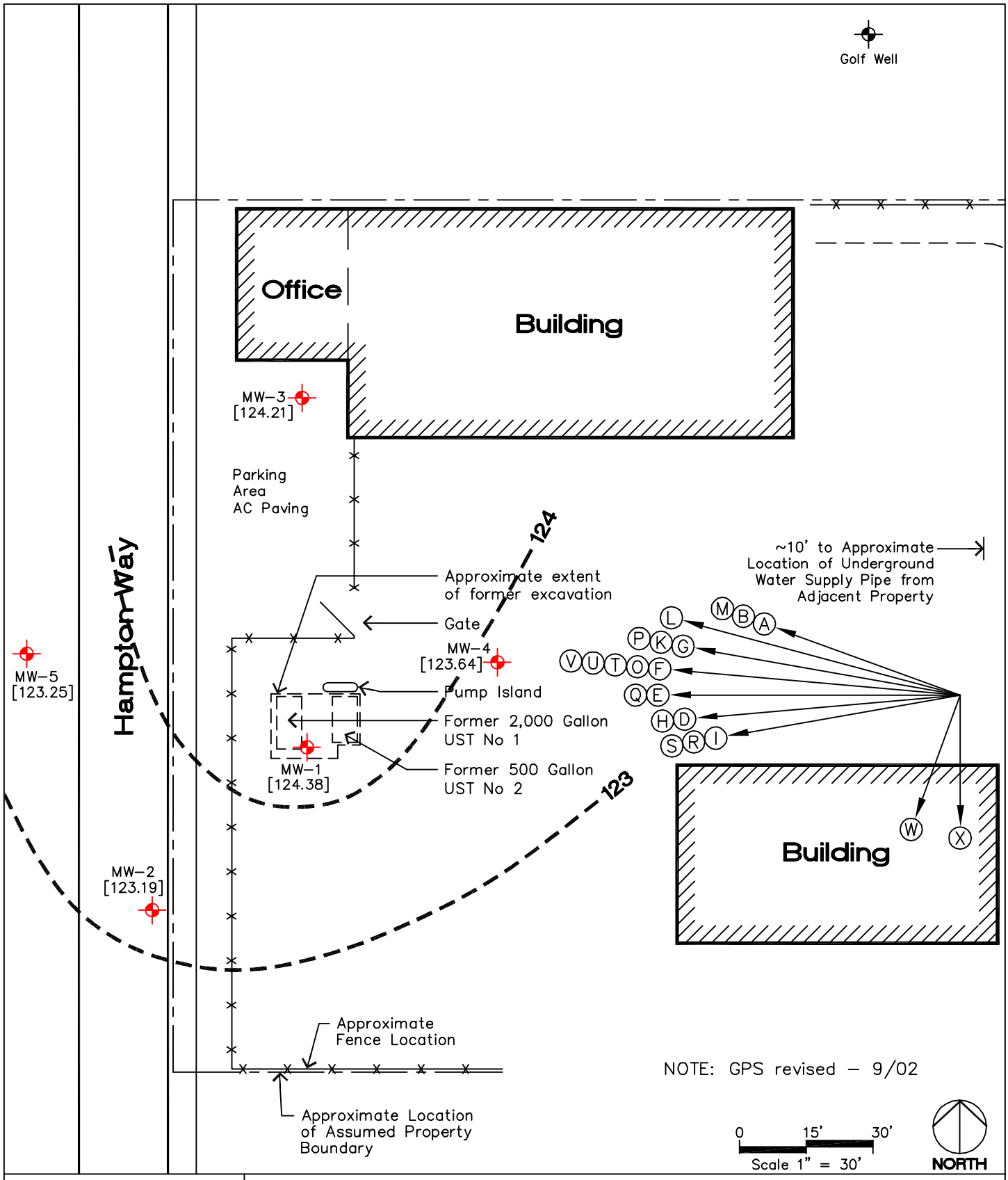
PROJ. NO.: 3314.00	DWN. BY: AJH	ACAD FILE: 3314.00-SP2-3483
DATE: 6/27/05	CHK. BY:	APP. BY: SK

SHEET TITLE: SITE PLAN

SCALE: 1" = 30'

PROJECT TITLE: PHIL JOHNSON
1599 HAMPTON WAY
SANTA ROSA, CALIFORNIA

FIGURE NO.: 2



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SITE PLAN

Groundwater Flow Direction and Gradient for 1/26/04

Phil Johnson
1599 Hampton Way
Santa Rosa, California

FIGURE: 3
1 of 2

PROJECT NO.:	FILENAME:	DRAWN BY:	APPR. BY:	GPS DATE:	W.O. NO.:	REVISIONS:	DATE:
314.00	314.00-GW.X	ALP	GSJ		3161		2/17/04

GROUNDWATER FLOW LEGEND

Estimated Groundwater Flow Direction → (A)

Gradient Contour (Interval = 1.0 ft) – – – – –

Identifier Tag	Date	Est. Flow Direction	Gradient Slope
(A)	10/8/98	N70°W	i = 0.1
(B)	1/12/00	N70°W	i = 0.057
(C)	4/13/00	-----	Not Calculated
(D)	6/23/00	S85°W	i = 0.033
(E)	7/13/00	Due West	i = 0.04
(F)	10/19/00	N85°W	i = 0.03
(G)	3/30/01	N80°W	i = 0.04
(H)	9/11/01	S85°W	i = 0.07
(I)	10/16/01	S80°W	i = 0.06
(J)	11/13/01	---	---
(K)	12/12/01	N80°W	i = 0.05
(L)	1/15/02	N75°W	i = 0.04
(M)	2/12/02	N70°W	i = 0.06
(N)	3/12/02	-----	Not Calculated
(O)	4/16/02	N85°W	i = 0.05
(P)	5/14/02	N80°W	i = 0.03
(Q)	6/11/02	Westerly	i = 0.04
(R)	7/16/02	S80°W	i = 0.02
(S)	8/13/02	S80°W	i = 0.02
(T)	11/13/02	Westerly	i = 0.04
(U)	2/12/03	Westerly	i = 0.01
(V)	5/6/03	Westerly	i = 0.01
(W)	8/15/03	SW	i = 0.02
(X)	1/26/04	Southerly	i = 0.03

Identifier Tag	Date	Est. Flow Direction	Gradient Slope

MW–1 [XX.XX] Monitoring Well Location Groundwater Elevation

NOTE: Ground water elevations are in feet above mean sea level (National Geodetic Vertical Datum, 1929).

⌜ ⌝ ⌞ ⌟ Approx. Locations of former UST's

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SITE PLAN
Groundwater Flow Direction and Gradient for 1/26/04

Phil Johnson
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FIGURE: 3
2 of 2

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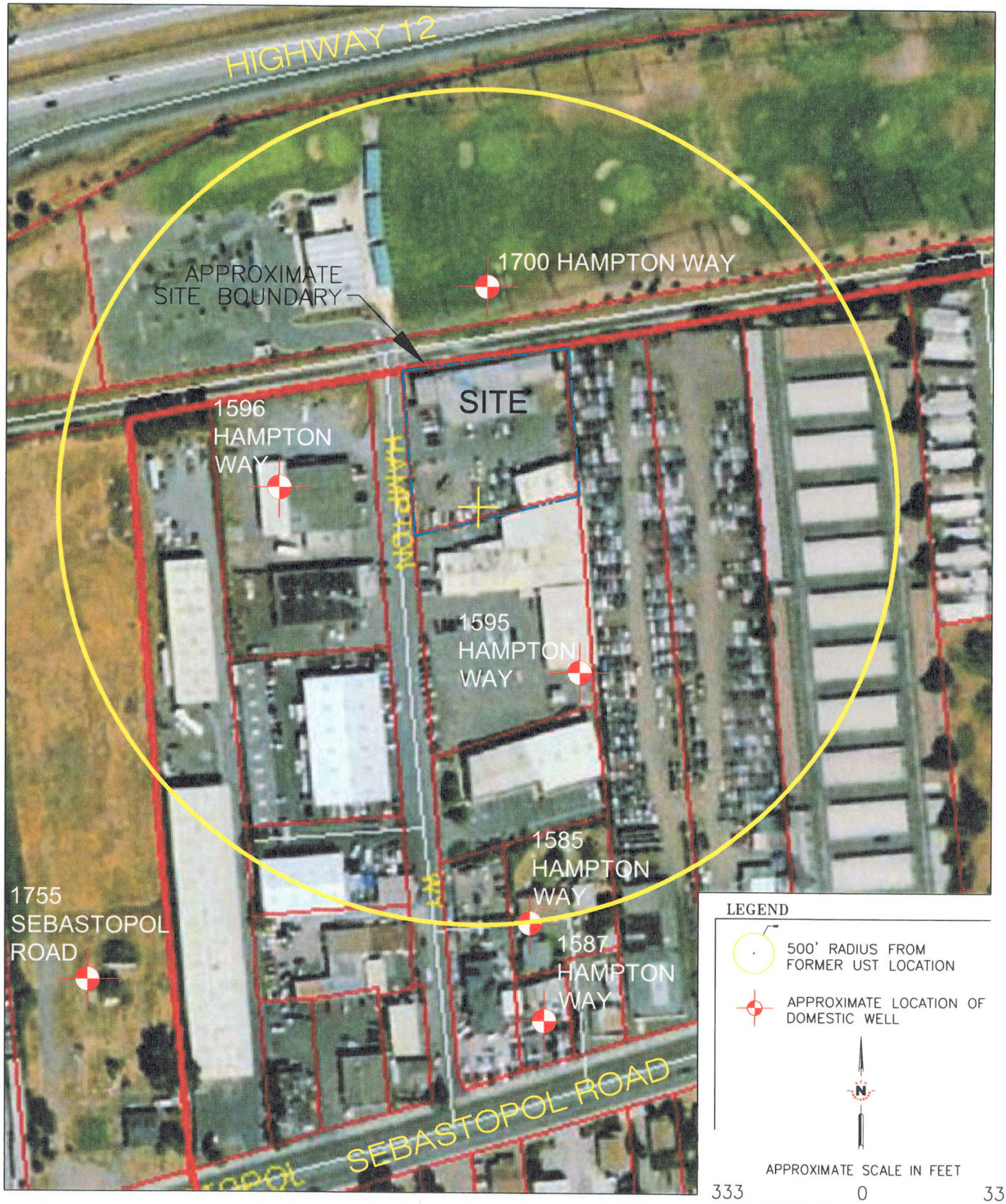

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PROJ. NO.	DWN. BY:	ACAD FILE:
1203314.00	JJM	3314.00_Aerial_Site+Vic
DATE	CHK. BY:	APP. BY:
6-23-05	KLC	KLC

SHEET TITLE: SENSITIVE RECEPTOR MAP

PROJECT TITLE: PHIL JOHNSON
1599 HAMPTON WAY
SANTA ROSA, CALIFORNIA

SCALE: 1" = 333'

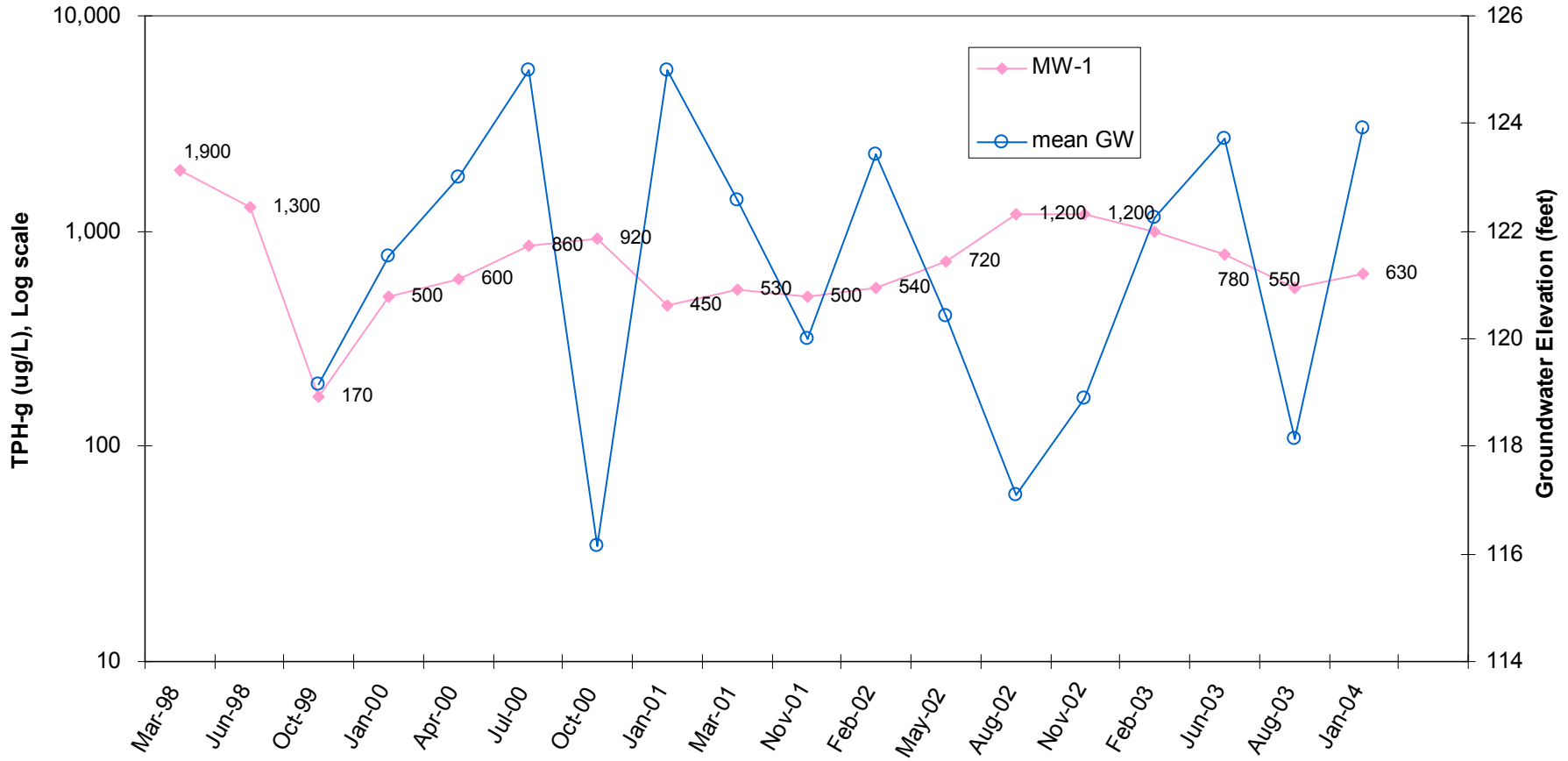
FIGURE NO. 4

Diagrams and Tables

Key to Diagram and Tables
1599 Hampton Way, Santa Rosa

TPH-g	=	Total petroleum hydrocarbons in the gasoline range
B	=	Benzene
T	=	Toluene
E	=	Ethylbenzene
X	=	Xylenes
MTBE	=	Methyl tertiary butyl ether
Five Oxys	=	Five ether-based oxygenates [diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tert-amyl methyl ether (TAME), MTBE, and tert-butyl alcohol (TBA)]
EDC	=	Ethylene dichloride[2]
EDB	=	Ethylene dibromide[3]
Pb Scavs	=	Lead scavengers (EDC, EDB)
mg/kg	=	Milligrams per kilogram
μg/L	=	Micrograms per liter

[2] EDC has been referred to as 1,2-dichloroethane (1,2-DCA) in previous reports.
[3] EDB has been referred to as 1,2-dibromoethane (1,2-DBA) in previous reports.



Note: MW-1 was submerged on November 13, 2001 and February 12, 2003, and therefore was inaccessible for sampling.
MW-1 was inaccessible on May 6, 2003.
MW-2, MW-3, MW-4, and MW-5 have been ND for TPH-g since installation.

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TPH-g & Groundwater Elevation vs Time

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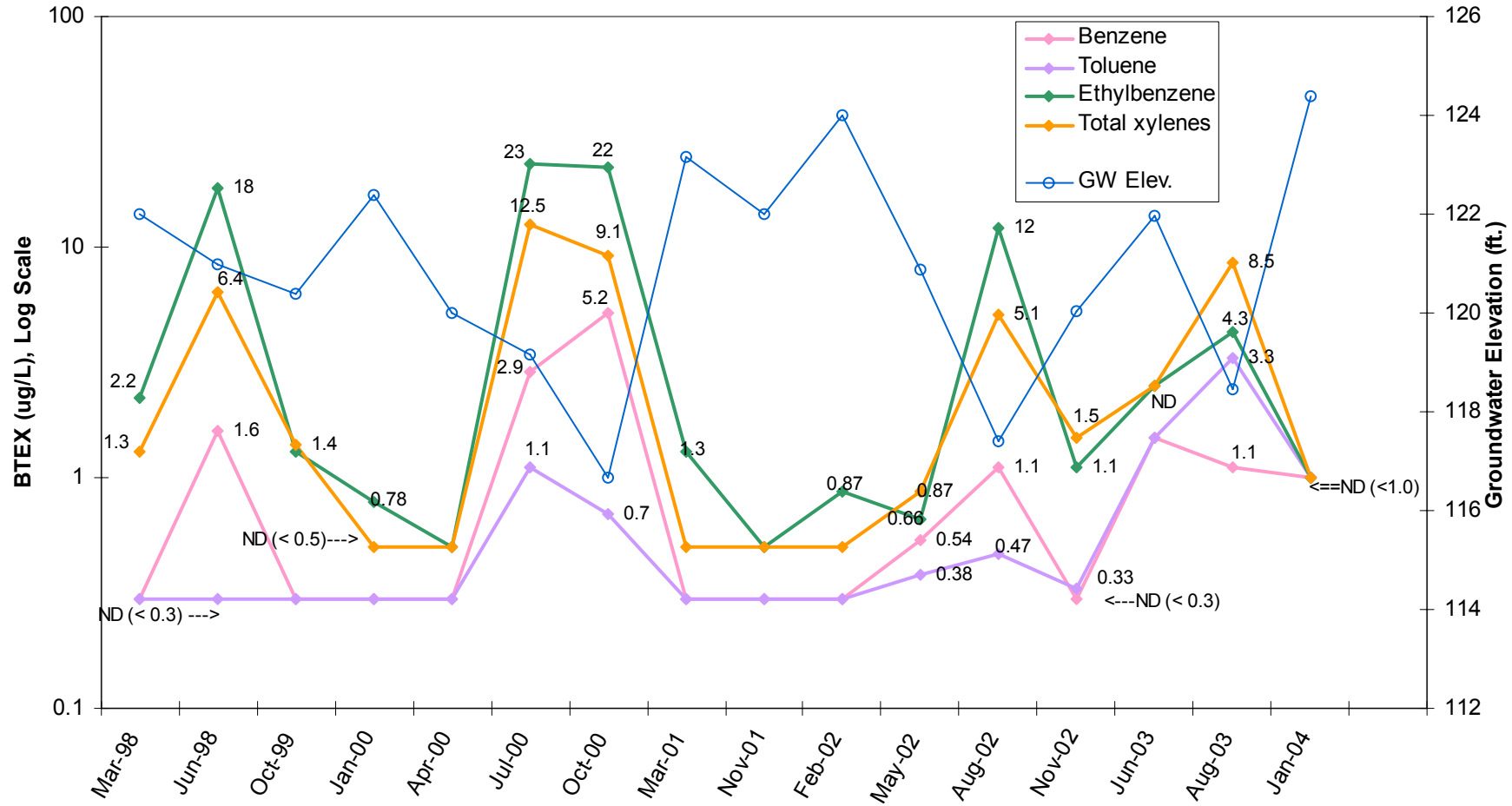
DIAGRAM
A

Drawn by:	File Name:		Job Number:		Date:
MRO	3314 TPH-g-GW		3314.00		February 11, 2004



Note: MW-1 was inaccessible for the February and May 2003 sampling events, May 2003 sampling of MW-1 was conducted on June 2, 2003.

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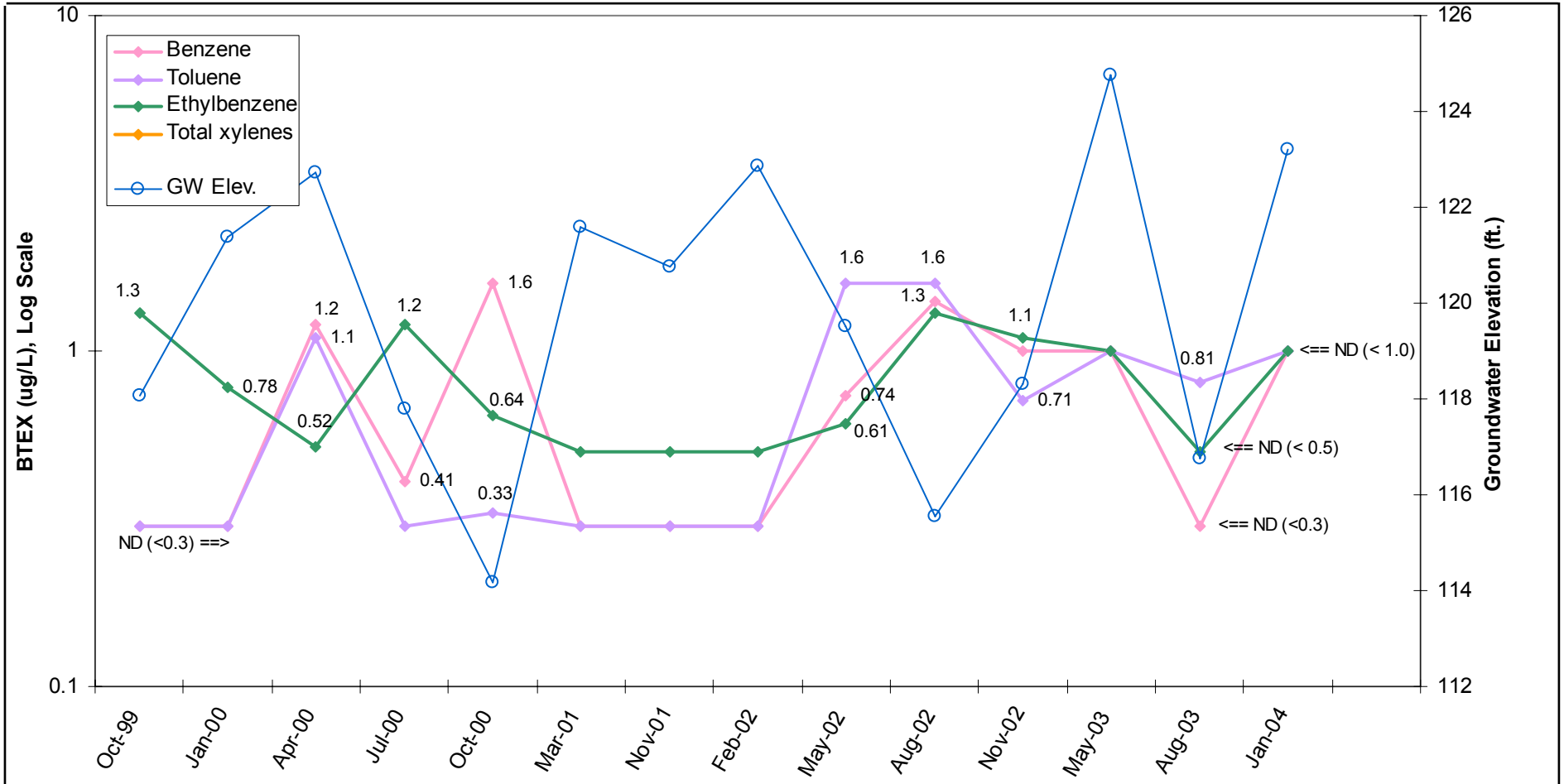
BTEX & Groundwater Elevation vs Time - MW-1

Phil Johnson
1599 Hampton Way
Santa Rosa, California

DIAGRAM
B

Drawn by:	File Name:		Job Number:		Date:
MRO	3314 BTEX-GW		3314.00		February 11, 2004



Note: MW-1 was inaccessible for the February and May 2003 sampling events, May 2003 sampling of MW-1 was conducted on June 2, 2003.

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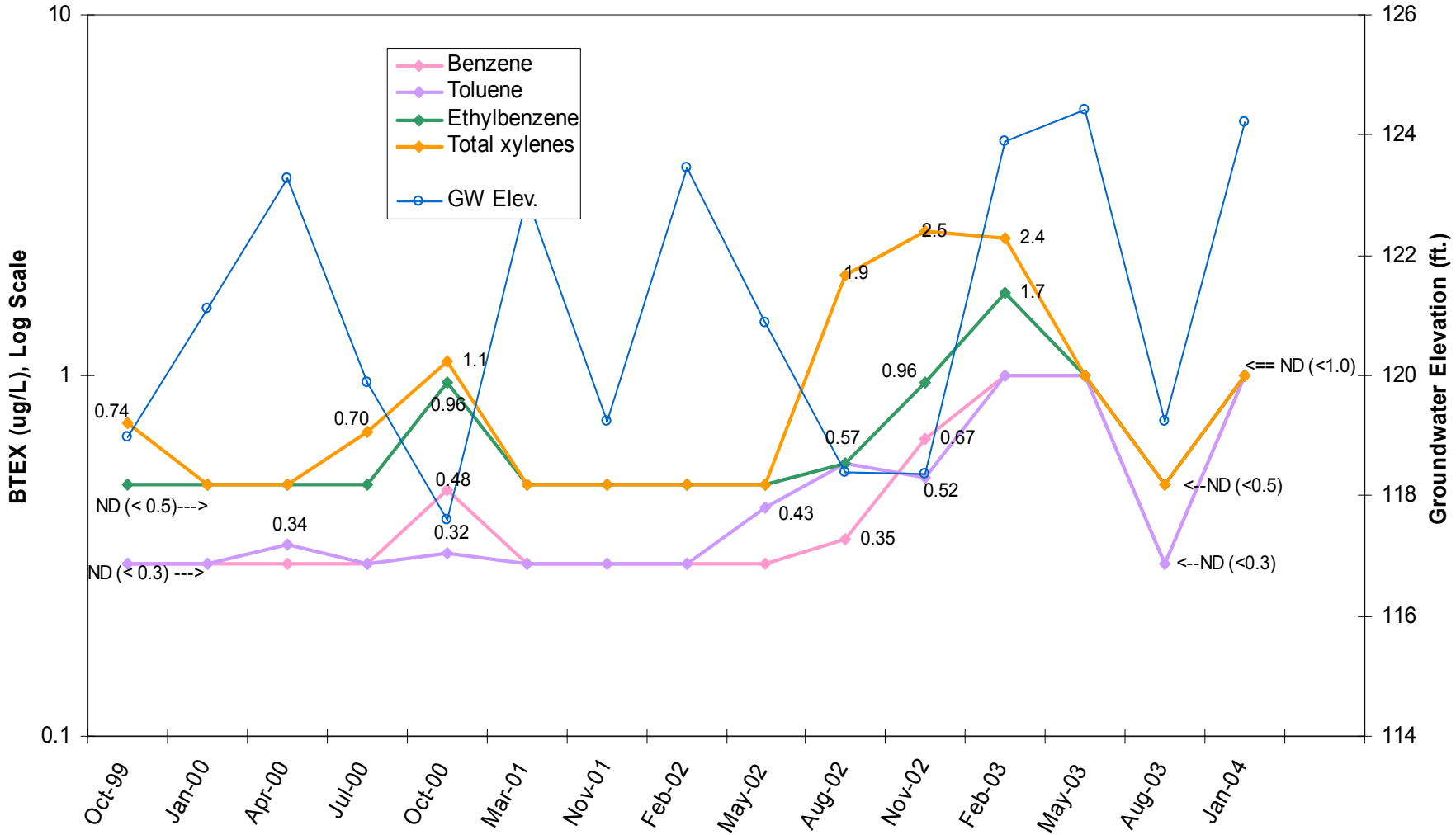
BTEX & Groundwater Elevation vs Time - MW-2

Phil Johnson
1599 Hampton Way
Santa Rosa, California

DIAGRAM
C

Drawn by:	File Name:		Job Number:		Date:
MRO	3314 BTEX-GW		3314.00		February 11, 2004



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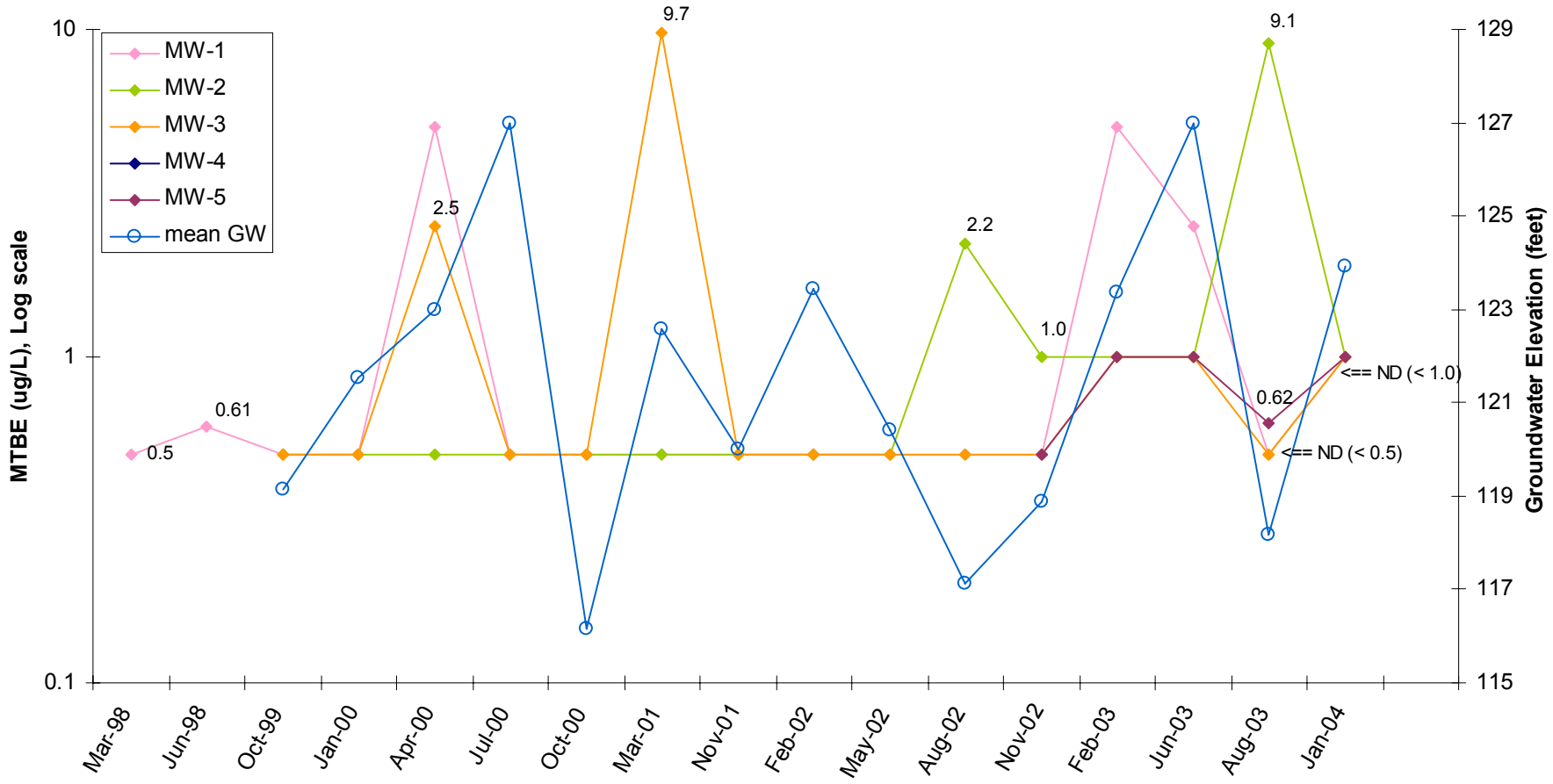
BTEX & Groundwater Elevation vs Time - MW-3

Phil Johnson
1599 Hampton Way
Santa Rosa, California

DIAGRAM
D

Drawn by:	File Name:		Job Number:		Date:
MRO	3314 BTEX-GW		3314.00		February 11, 2004



Note: MW-1 was submerged on November 13, 2001, and February 12, 2003, and therefore inaccessible for sampling.
MW-1 was inaccessible for sampling on May 6, 2003., but was located and sampled on June 2, 2003.
MW-4 has been consistently below the detection limit for MTBE.

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MTBE & Groundwater Elevation vs Time

Phil Johnson
1599 Hampton Way
Santa Rosa, California

DIAGRAM
E

Drawn by:	File Name:		Job Number:		Date:
MRO	3314 Oxys-GW		3314.00		February 11, 2004

Table 1: Soil Sample Analytical Results - Borings B-1 through B-8
1599 Hampton Way, Santa Rosa, California

Sample Number	Date Sampled	TPH-g	B	T	E	X
		----------mg/kg ----------				
B-1-5'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-1-10'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-1-15'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-1-20'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-2-5'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-2-10'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-2-15'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-2-20'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-3-5'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-3-10'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-3-15'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-3-20'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-4-5'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-4-10'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-4-15'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-4-20'	08/22/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-5-5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-5-10'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-5-15'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-5-19'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-6-5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-6-10'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-6-14.5'	08/23/96	**5.7**	**0.0078**	**0.0068**	**0.029**	**0.043**
B-6-19.5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-7-6'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-7-9'	08/23/96	**1.6***	<0.005	<0.005	<0.005	**0.0074**
B-7-14'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-7-20.5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-8-5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-8-10'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-8-14.5'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005
B-8-20'	08/23/96	<1.0	<0.005	<0.005	<0.005	<0.005

* = Atypical Pattern.

Table 2: Groundwater Sample Analytical Results - Borings B-1 through B-11
1599 Hampton Way, Santa Rosa, California

Sample Number	Date Sampled	TPH-g	B	T	E	X
		----------ug/L----------				
B-1-Water	08/22/96	<50	<0.3	<0.3	<0.3	<0.3
B-2-Water	08/22/96	<50	<0.3	<0.3	<0.3	<0.3
B-3-Water	08/22/96	<50	<0.3	<0.3	<0.3	<0.3
B-4-Water	08/22/96	<50	<0.3	<0.3	<0.3	<0.3
B-5-Water	08/23/96	<50	<0.3	**0.42**	<0.3	<0.3
B-6-Water	08/23/96	<50	**6.1**	<0.3	**1.0**	**1.4**
B-7-Water	08/23/96	**79**	<0.3	<0.3	**4.1**	**2.3**
B-8-Water	08/23/96	<50	<0.3	<0.3	<0.3	<0.3
B-09-W@35.0'	06/01/05	<50	<1.0	**14**	<1.0	<1.0
B-10-W@30.0'	06/01/05	<50	<1.0	<1.0	<1.0	<1.0
B-11-W@30.0'	06/01/05	<50	<1.0	**1.6**	<1.0	<1.0

Table 3: Soil Sample Analytical Results - Monitoring Wells - MW-1 through MW-5
1599 Hampton Way, Santa Rosa, California

Sample Number	Date Sampled	TPH-g	B	T	E	X	MTBE	8260*
		----------mg/kg----------						
MW-1-5'	03/11/98	<1.0	<0.005	<0.005	<0.005	<0.005	<1.0	<0.005
MW-1-10'	03/11/98	<1.0	<0.005	<0.005	<0.005	<0.005	<1.0	<0.005
MW-1-13.5'	03/11/98	**39**	<0.005	<0.005	**0.0072**	**0.010**	<1.0	<0.005
MW-2-5'	09/30/99	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-2-10'	09/30/99	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-2-13'	09/30/99	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-3-5'	09/30/00	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-3-10'	09/30/99	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-3-13'	09/30/99	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-4-5'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-4-10'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-4-12'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-4-15'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-5-5'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-5-10'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-5-12'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01
MW-5-15'	11/08/02	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 to <0.01

* Additional VOC's by EPA method 8260 were None detect.

Table 4: Groundwater Sample Analytical Results - Monitoring Wells - MW-1 through MW-5
1599 Hampton Way, Santa Rosa, California

ID	Date	TPH-g	B	T	E	X	MTBE	DIPE	ETBE	TAME	TBA	s-butylbenzene	t-butylbenzene	n-butylbenzene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	naphthalene	p-isopropyltoluene	4-isopropyltoluene	bromodichlormethane	acetone	methylethylketone
		----------ug/L----------																								
MW-1	03/17/98	**1,900**	<1.2	<3.9	**2.2**	**1.3**	<9.0	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50
	06/19/98	**1,300**	**1.6**	ND	**18**	**6.4**	**0.61**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/08/99	**170**	<0.30	<0.50	**1.3**	**1.4**	<0.50	<0.50	<0.50	<0.50	<10	**0.52**	**1.8**	<0.50	**0.86**	**4.8**	**0.94**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<5.0
	01/12/00	**500**	<0.30	<0.30	**0.78**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	04/13/00	Well inaccessible																								
	07/13/00	**860**	**2.9**	**1.1**	**23**	**12.5**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	**16**	**58**	**11**	<0.50	**4.5**	**6.8**	**4.0**	<0.50	<0.50	<0.50	<5.0	<1.0
	10/19/00	**920**	**5.2**	**0.7**	**22**	**9.1**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**3.7**	**15**	**42**	**8.1**	**2.2**	**4.6**	**5.4**	**4.5**	<0.50	**0.79**	<0.50	<5.0	<1.0
	03/30/01	**530**	<0.30	<0.50	**1.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**3.2**	**4.7**	**4.3**	**2.7**	**2.4**	**3.9**	**2.4**	**1.6**	**1.2**	<0.50	**1.0**	<5.0	<1.0
	11/13/01	Well inaccessible																								
	02/12/02	**540**	<0.30	<0.30	**0.87**	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**2.1**	**5.1**	**0.89**	**1.0**	**3.2**	**5.8**	**2.2**	<5.0	<0.50	<0.50	<0.50	**21**	<1.0
	05/14/02	**720**	**0.54**	**0.38**	**0.66**	**0.87**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**1.2**	**1.8**	**0.67**	<0.50	**2.2**	**4.9**	**1.6**	**1.8**	<0.50	<0.50	<0.50	**9.1**	<1.0
	08/13/02	**1,200**	**1.1**	**0.47**	**12**	**5.1**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	**4.0**	**1.3**	**0.88**	**1.0**	**6.5**	**2.7**	**2.1**	**0.71**	<0.50	<0.50	<5.0	<1.0
	11/13/02	**1,200**	<0.3	**0.33**	**1.1**	**1.5**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	**2.8**	**3.7**	**0.96**	<0.50	**5.1**	**7.0**	**1.8**	**1.3**	<0.50	<0.50	<0.50	<5.0	<1.0
	02/12/03	Well was inaccessible																								
	05/06/03	Well was inaccessible																								
	06/02/03	**780**	<1.5	<1.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25	<5.0
	08/15/03	**550**	**1.1**	**3.3**	**4.3**	**8.5**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	**2.2**	**2.1**	**0.67**	<0.50	**5.9**	**0.99**	**1.9**	<0.50	<0.50	<0.50	<5.0	<1.0
	01/26/04	**630**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	**4.1**	<1.0	<1.0	**2.6**	**5.7**	**1.7**	<1.0	<1.0	<1.0	<1.0	NA	NA
MW-2	10/08/99	<50	<0.30	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0
	01/12/00	<50	<0.30	<0.30	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	04/13/00	<50	**1.2**	**1.1**	**0.52**	**1.3**	<0.50	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/13/00	<50	**0.41**	<0.50	**1.2**	**6.3**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	10/19/00	<50	**1.6**	**0.33**	**0.64**	**0.61**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	03/30/01	<50	<0.30	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	11/13/01	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	02/12/02	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	05/14/02	<50	**0.74**	**1.6**	**0.61**	**1.7**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.68**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**60**	<1.0
	08/13/02	<50	**1.4**	**1.6**	**1.3**	**4.3**	**2.2**	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**1.0**	**0.63**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	11/13/02	<50	**1.0**	**0.71**	**1.1**	**2.8**	**1.0**	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.87**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	2/12/03[1]	<50	<1.0	<1.0	**1.4**	**2.1**	<1.0	<1.0	<1.0	<1.0	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	05/06/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	08/15/03	<50	<0.3	**0.81**	<0.5	**1.2**	**9.1**	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	01/26/04	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA

1 Also ND for 1,2-dibromomethane and 1,2-dichloroethane

Table 4: Groundwater Sample Analytical Results - Monitoring Wells - MW-1 through MW-5
1599 Hampton Way, Santa Rosa, California

ID	Date	TPH-g	B	T	E	X	MTBE	DIPE	ETBE	TAME	TBA	s-butylbenzene	t-butylbenzene	n-butylbenzene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	naphthalene	p-isopropyltoluene	4-isopropyltoluene	bromodichlormethane	acetone	methylethylketone
		----------ug/L----------																								
MW-3	10/08/99	<50	<0.30	<0.50	<0.50	**0.74**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	01/12/00	<50	<0.30	<0.30	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	04/13/00	<50	<0.30	**0.34**	<0.50	<0.50	**2.5**	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	07/13/00	<50	<0.30	<0.30	<0.50	**0.7**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	10/19/00	<50	**0.48**	**0.32**	**0.96**	**1.1**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<0.50	<0.50	<0.50	**0.59**	<0.50	<0.50	<0.50	<5.0	<1.0
	03/30/01	<50	<0.30	<0.50	<0.50	<0.50	**9.7**	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	11/13/01	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	02/12/02	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	05/14/02	<50	<0.3	**0.43**	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	08/13/02	<50	**0.35**	**0.57**	**0.57**	**1.9**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.86**	**0.59**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	**5.1**
	11/13/02	<50	**0.67**	**0.52**	**0.96**	**2.5**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.84**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	2/12/03[1]	<50	<1.0	<1.0	**1.7**	**2.4**	<1.0	<1.0	<1.0	<1.0	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	05/06/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	08/15/03	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	01/26/04	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
MW-4	11/13/02	<50	<0.3	<0.3	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.62**	**0.52**	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	02/12/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	05/06/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	08/15/03	<50	<0.3	**1.3**	**0.82**	**3.3**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.60**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	01/26/04	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
MW-5	11/13/02	<50	**0.74**	**0.55**	**0.9**	**2.4**	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	**0.83**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	02/12/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	05/06/03	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	08/15/03	<50	<0.3	**1.3**	**0.82**	**3.3**	**0.62**	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0
	01/26/04	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA

1 Also ND for 1,2-dibromomethane and 1,2-dichloroethane

Table 5: Groundwater Flow Direction and Gradient – 1998 to 2004
1599 Hampton Way, Santa Rosa, California

Well #	Date	Top of Casing Elevation (feet > msl)	Depth to Water (feet)	Water Level Elevation (feet > msl)	Groundwater Flow Direction and Gradient (i)
MW-1	10/08/98	130.16	9.76	120.40	N70ºW i = 0.1
MW-2		129.96	11.88	118.08	
MW-3		131.42	12.45	118.97	
MW-1	01/12/00	130.16	7.78	122.38	N70ºW i = 0.057
MW-2		129.96	8.82	121.14	
MW-3		131.42	10.30	121.12	
MW-1	04/13/00	130.16	Well inaccessible		Not Calculated
MW-2		129.96	7.25	122.71	
MW-3		131.42	8.15	123.27	
MW-1	06/23/00*	130.16	10.14	120.02	S85ºW i = 0.033
MW-2		129.96	11.21	118.75	
MW-3		131.42	10.83	120.59	
MW-1	07/13/00	130.16	11.00	119.16	Due West i = 0.04
MW-2		129.96	12.15	117.81	
MW-3		131.42	11.55	119.87	
MW-1	10/19/00	130.16	13.50	116.66	N85ºW i = 0.03
MW-2		129.96	15.79	114.17	
MW-3		131.42	13.82	117.60	
MW-1	03/30/01	130.16	7.01	123.15	N80ºW i = 0.04
MW-2		129.96	8.36	121.60	
MW-3		131.42	8.45	122.97	
MW-1	09/11/01	130.16	13.23	116.93	S85ºW i = 0.07
MW-2		129.96	15.43	114.53	
MW-3		131.42	13.42	118.00	
MW-1	10/16/01	130.16	14.23	115.93	S80°W i = 0.06
MW-2		129.96	16.46	113.50	
MW-3		131.42	14.40	117.02	
MW-1	11/13/01	130.16	Well inaccessible		Not calculated
MW-2		129.96	9.21	120.75	
MW-3		131.42	12.18	119.24	
MW-1	12/12/01	130.16	5.19	124.97	N80°W i = 0.05
MW-2		129.96	6.40	123.56	
MW-3		131.42	6.71	124.71	

Table 5: Groundwater Flow Direction and Gradient – 1998 to 2004
1599 Hampton Way, Santa Rosa, California

Well #	Date	Top of Casing Elevation (feet > msl)	Depth to Water (feet)	Water Level Elevation (feet > msl)	Groundwater Flow Direction and Gradient (i)
MW-1	01/15/02	130.16	3.35	126.81	N75°W i = 0.04
MW-2		129.96	4.33	125.63	
MW-3		131.42	4.99	126.43	
MW-1	02/12/02	130.16	6.17	123.99	N70°W i = 0.06
MW-2		129.96	7.10	122.86	
MW-3		131.42	7.98	123.44	
MW-1	03/12/02	130.16	Well inaccessible		Not calculated
MW-2		129.96	5.87	124.09	
MW-3		131.42	7.33	124.09	
MW-1	04/16/02	130.16	8.32	121.84	N85°W i = 0.05
MW-2		129.96	9.61	120.35	
MW-3		131.42	9.52	121.90	
MW-1	05/14/02	130.16	9.28	120.88	N80°W i = 0.03
MW-2		129.96	10.45	119.51	
MW-3		131.42	10.55	120.87	
MW-1	06/11/02	130.16	10.55	119.61	Westerly
MW-2		129.96	11.73	118.23	
MW-3		131.42	11.30	120.12	
MW-1	07/16/02	130.16	11.96	118.20	S80°W i = 0.02
MW-2		129.96	13.45	116.51	
MW-3		131.42	12.35	119.07	
MW-1	08/13/02	130.16	12.75	117.41	S80°W i = 0.02
MW-2		129.96	14.42	115.54	
MW-3		131.42	13.04	118.38	
MW-1	11/13/02	130.16	10.14	120.02	Westerly i = 0.04
MW-2		129.96	11.65	118.31	
MW-3		131.42	13.05	118.37	
MW-4		130.65	11.56	119.09	
MW-5		129.94	12.26	117.68	
MW-1	02/12/03*	130.16	Well inaccessible		Westerly i = 0.01
MW-2		129.87	6.99	122.88	
MW-3		131.33	7.45	123.88	
MW-4		130.35	6.45	123.90	
MW-5		129.84	6.89	122.95	

Table 5: Groundwater Flow Direction and Gradient – 1998 to 2004
1599 Hampton Way, Santa Rosa, California

Well #	Date	Top of Casing Elevation (feet > msl)	Depth to Water (feet)	Water Level Elevation (feet > msl)	Groundwater Flow Direction and Gradient (i)
MW-1	05/06/03	130.16	Well inaccessible		Westerly i = 0.01
MW-2		129.87	5.10	124.77	
MW-3		131.33	6.91	124.42	
MW-4		130.35	5.25	125.10	
MW-5		129.84	5.69	124.15	
MW-1	08/15/03	130.16	11.70	118.46	Southwesterly i = 0.02
MW-2		129.87	13.10	116.77	
MW-3		131.33	12.05	119.28	
MW-4		130.35	11.95	118.40	
MW-5		129.84	11.85	117.99	
MW-1	01/26/04	130.16	5.78	124.38	Southerly i = 0.03
MW-2		129.87	6.68	123.19	
MW-3		131.33	7.12	124.21	
MW-4		130.35	6.71	123.64	
MW-5		129.84	6.59	123.25	

* All MWs except MW-1 (inaccessible) resurveyed on this date.

Table 6: Sensitive Site Receptor Survey Results
1599 Hampton Way, Santa Rosa, California

Address	Well Y/N	Use	Water Utility Customer Y/N	Comments/Source
1503 Hampton Way	N		Y	Water utility records
1524 Hampton Way	?		N	Tenant did not know well status. Presume water supply from on-site or adjacent well.
1572 Hampton Way	Y	Domestic*	N	* Tenant uses bottled drinking water. He understands that on-site well was shown to be contaminated during investigation of nearby site several years ago.
1589 Hampton Way	N		Y	Water utility records
1594 Hampton Way 1596 Hampton Way	Y	Domestic	N	some tenants use bottled drinking water, others unaware of water supply source.
1595 Hampton Way	Y	Domestic*	N	* Tenant uses bottled drinking water.
1599 Hampton Way	N*		N	* Tenants believe that water source is an adjacent well.
1700 Hampton Way	Y	Irrigation	Y	Water utility records
1511 Sebastopol Rd.	N		Y	Water utility records
1569 Sebastopol Rd.	N		Y	Water utility records
1583 Sebastopol Rd.	?		N	Not contacted
1585 Sebastopol Rd.	Y	Irrigation	Y	Water utility records
1587 Sebastopol Rd.	Y	Irrigation	Y	Water utility records
1591 Sebastopol Rd.	N		Y	Water utility records
1611 Sebastopol Rd.	N		Y	Water utility records
1665 Sebastopol Rd.	N		Y	Water utility records
1701 Sebastopol Rd.	N		Y	Water utility records
1723, 1755 Sebastopol Rd.	Y	Irrigation	Y	Water utility records
1733 Sebastopol Rd.	N		Y	Water utility records
1558 Sebastopol Rd.	N		Y	Water utility records
1562 Sebastopol Rd.	Y	Domestic	N	Tenant interview
1580 Sebastopol Rd.	N		Y	Water utility records
1600-1630 Sebastopol Rd.	N		Y	Water utility records
1660 Sebastopol Rd.	N*		N	* No well on site, according to long-time next-door resident.
1680 Sebastopol Rd.	N		Y	Water utility records
1720 Sebastopol Rd.	N		Y	Water utility records

Appendices

Appendix A

Unified Soil Classification System Chart and Boring Log Legend
Boring Logs for B-09 through B-11

GENERAL SOIL CATEGORIES			SYMBOLS GRAPHIC	SYMBOLS LETTER	TYPICAL SOIL TYPES
COARSE GRAINED SOILS More than half is larger than no. 200 sieve	**Gravel** More than half of coarse fraction is larger than No. 4 sieve size	Clean Gravel with little or no fines		GW	Well Graded Gravels, Gravel - Sand mixtures
				GP	Poorly Graded Gravels, Gravel - Sand mixtures
		Gravel with more than 12% fines		GM	Silty Gravels, Poorly Graded; Gravel - Sand - Silt Mixtures
				GC	Clayey Gravels, Poorly Graded; Gravel - Sand - Clay Mixtures
	Sand More than half of coarse fraction is smaller than No. 4 sieve size	Clean Sand with little or no fines		SW	Well Graded Sands, Gravelly Sands
				SP	Poorly Graded Sands, Gravelly Sands
		Sand with more than 12% fines		SM	Silty Sands, Poorly Graded; Sand - Silt Mixtures
				SC	Clayey Sands, Poorly Graded; Sand - Clay Mixtures
FINE GRAINED SOILS More than half is smaller than no. 200 sieve	**Silt and Clay** Liquid Limit Less than 50%			ML	Inorganic Silts and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity
				CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
				OL	Organic Silts and Organic Silty Clays of Low Plasticity
	Silt and Clay Liquid Limit Greater than 50%			MH	Inorganic Silts, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silts
				CH	Inorganic Clays of High Plasticity, Fat Clays
				OH	Organic Clays of Medium to High Plasticity
Highly Organic Soils				PT	Peat and Other Highly Organic Soils
Bedrock				BR	Bedrock
Aggregate Base				B	Mixed Fill
Asphalt				A	Asphalt
Concrete				C	Concrete

■ Soil sample submitted for chemical analysis

☒ Soil sample examined for soil classification

Sampler Type
- CMSS = CA Modified Split Spoon
- SPT = Standard Penetration Test
- CBS = Continuous Barrel Sampler
- GRAB = Grab Sample
- HA = Hand Auger

▼ Initial Static Water Level

▽ First Identified Free Water

n.a. = not applicable
n.r. = not recorded

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UNIFIED SOIL CLASSIFICATION SYSTEM CHART and BORING LOG LEGEND

Phil Johnson
1599 Hampton Way
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
A-1
1 of 1

Date (start, end): 6/1/05 - 6/1/05
Drilling Time (start, end) 08:30 - 11:30
Logged By: Stephen Knüttel
Checked By: Stephen Knüttel

Boring No.
B-09

Boring Location:

See Unified Soil Classification System (USCS) for Legend and information not noted.

Drilling Contractor: Weeks Drilling & Pump Co.
Driller's Name: Tim Teller
Drilling Method: 7-ft Hollow-Stem Auger
Sampling Method: CMSS
Hammer weight / fall: 140 lbs / 30 inch
Notes:

MW Installed: Y ☐ N ☒ if no, boring backfilled with:
Cement ☐ Bentonite: Cement ☐ Grout ☐ Chips ☒
Auger Depth, ft: 30.0 Total Depth, ft: 35.0

Sample	Inches Recovered	Blows / 6 in	Sampler Type	Water Levels	PID (ppm)	Odor	Discoloration	Elevation	Depth in Feet	Graphic Log	Gravel %	Sand %	Silt %	Clay %	Lithologic Description and Drilling Comments:
															ASPHALT: over base rock..
			HA												**CLAY** (CL): dark brown, minor very fine grained sand, silty, moist.
									5						Moderate brown, moist to wet.
				▽		No	No								
☒	6	16	CMSS		0				10		40	30	25	5	**GRAVEL with Silt and Sand** (GW-GM): brown, fine and coarse gravel, very fine to coarse grained sand, wet.
☒	6	31									40	30	25	5	
☒	6	28									40	30	25	5	
															CLAY (CL): brown, moist.
☒	6	5	CMSS		0				15				20	80	
☒	6	9											20	80	
☒	6	12										5	50	45	**SILT** (ML): brown to light brown, minor very fine grained sand, clayey, moist.

SCS-SANTA ROSA BORING LOG 01203314.00.GPJ SCS-SANTA ROSA.GDT 06/28/05

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BORING LOG B-09

Phil Johnson
1599 Hampton Way
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-09

Sample	Inches Recovered	Blows / 6 in	Sampler Type	Water Levels	PID (ppm)	Odor	Discoloration	Elevation	Depth in Feet	Graphic Log	Gravel %	Sand %	Silt %	Clay %	Lithologic Description and Drilling Comments:
															SANDY SILT (ML): brown, very fine to fine grained sand, moist to wet.
	6	4	CMSS		0				20			30	60	10	
	6	11										30	60	10	
	6	17										35	60	5	
	6	6	CMSS		0							30	60	10	
	6	6										50	40	10	**SILTY SAND** (SM): brown, very fine to fine grained sand, wet.
	6	11				No	No		25			20	50	30	**SILT with Sand** (ML): brown, very fine to fine grained sand, moist, clayey.
	6	12	CMSS		0				30						**SANDY SILT** (ML): brown, very fine to fine grained sand, moist to wet.
	6	13									5	30	55	10	**SILTY SAND** (SM): brown, very fine to fine grained sand, trace fine gravel, wet.
	6	18									5	45	50		
			HP						35						TOTAL DEPTH = 35.0 FEET
									40						

SCS-SANTA ROSA BORING LOG 01203314.00.GPJ SCS-SANTA ROSA.GDT 06/28/05

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BORING LOG B-09

Phil Johnson
1599 Hampton Way
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-09
2 of 2

Date (start, end): 6/1/05 - 6/1/05
Drilling Time (start, end) 12:40 - 15:00
Logged By: Stephen Knüttel
Checked By: Stephen Knüttel

Boring No. **B-10**

Boring Location:

See Unified Soil Classification System (USCS) for Legend and information not noted.

Drilling Contractor: Weeks Drilling & Pump Co.
Driller's Name: Tim Teller
Drilling Method: 7-ft Hollow-Stem Auger
Sampling Method: CMSS
Hammer weight / fall: 140 lbs / 30 inch
Notes: Hole adjacent to B-06

MW Installed: Y ☐ N ☒ if no, boring backfilled with:
Cement ☐ Bentonite: Cement ☐ Grout ☐ Chips ☒
Auger Depth, ft: 25.0 Total Depth, ft: 30.0

Sample	Inches Recovered	Blows / 6 in	Sampler Type	Water Levels	PID (ppm)	Odor	Discoloration	Elevation	Depth in Feet	Graphic Log	Gravel %	Sand %	Silt %	Clay %	Lithologic Description and Drilling Comments:
				▽		No	No		5 10 15						**BASE ROCK** **CLAY** (CL): brown to dark gray. Minor, sand and gravel. **GRAVEL with Silt and Sand** (GW-GM): brown to gray, fine and coarse gravel, fine to coarse grained sand, wet.

SCS ENGINEERS
Environmental Consultants
3645 Westwind Boulevard
Santa Rosa, California 95403
Ph.: 707-546-9461 Fax: 707-544-5769

BORING LOG B-10

Phil Johnson
1599 Hampton Way
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-10
1 of 2

Sample	Inches Recovered	Blows / 6 in	Sampler Type	Water Levels	PID (ppm)	Odor	Discoloration	Elevation	Depth in Feet	Graphic Log	Gravel %	Sand %	Silt %	Clay %	Lithologic Description and Drilling Comments:
									20						**SANDY SILT** (ML): brown, very fine to fine grained sand, moist to wet.
X	6	10	CMSS		0										
X	6	19													
X	6	16													
						No	No								**SILTY SAND** (SM): brown, fine grained sand, minor clay, wet.
X	6	3	CMSS		0				25			50	40	10	
X	6	3										50	40	10	
X	6	8										50	40	10	
			HP						30						TOTAL DEPTH = 30.0 FEET
									35						
									40						

SCS-SANTA ROSA BORING LOG 01203314.00.GPJ SCS-SANTA ROSA.GDT 06/28/05

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BORING LOG B-10

Phil Johnson
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Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-10

Date (start, end): 6/1/05 - 6/1/05
Drilling Time (start, end) 15:15 - 17:30
Logged By: Stephen Knüttel
Checked By: Stephen Knüttel

Boring No. **B-11**

Boring Location:

See Unified Soil Classification System (USCS) for Legend and information not noted.

Drilling Contractor: Weeks Drilling & Pump Co.
Driller's Name: Tim Teller
Drilling Method: 7-ft Hollow-Stem Auger
Sampling Method: CMSS
Hammer weight / fall: 140 lbs / 30 inch
Notes:

MW Installed: Y ☐ N ☒ if no, boring backfilled with:
Cement ☐ Bentonite: Cement ☐ Grout ☐ Chips ☒
Auger Depth, ft: 25.0 Total Depth, ft: 30.0

Sample	Inches Recovered	Blows / 6 in	Sampler Type	Water Levels	PID (ppm)	Odor	Discoloration	Elevation	Depth in Feet	Graphic Log	Gravel %	Sand %	Silt %	Clay %	Lithologic Description and Drilling Comments:
															ASPHALT: over base rock..
															GRAVEL with Sand (GW): dark gray, fine and coarse gravel, moist, fine to coarse grained sand (FILL).
									5						**CLAY** (CL): dark brown, minor very fine to fine grained sand, moist.
						No	No								**SILT** (ML): brown, minor very fine grained sand, clayey, moist.
☒	6	10	CMSS		0				10			10	60	30	
☒	6	17										10	60	30	
☒	6	22		▽								10	60	30	
															SILTY SAND with Gravel (SW): brown, fine to medium grained sand and fine gravel, wet, minor clay.
☒	6	23	CMSS		0				15		30	40	20	10	
☒	6	16									30	40	20	10	
☒	6	19									30	40	20	10	

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BORING LOG B-11

Phil Johnson
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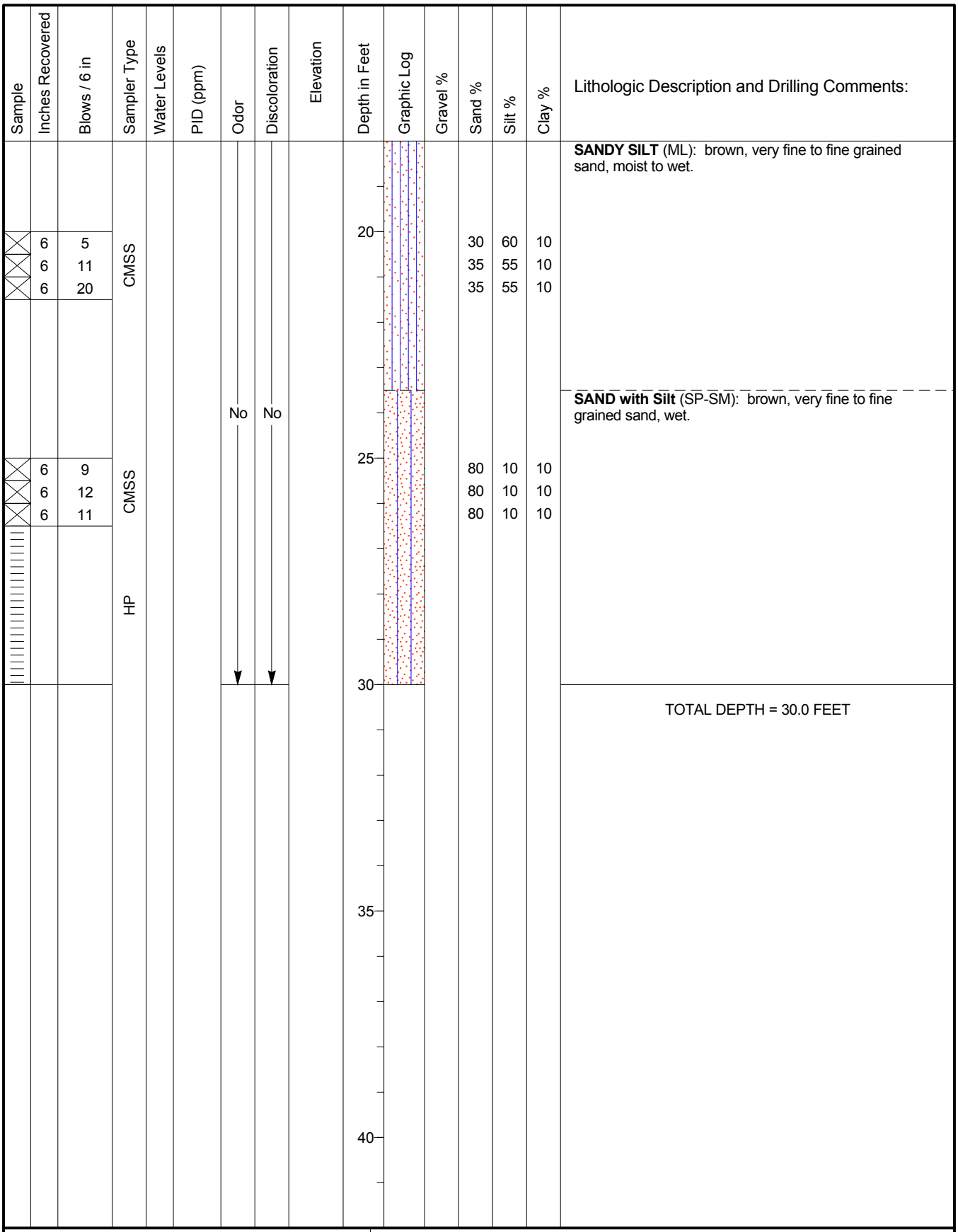
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-11
1 of 2



SCS-SANTA ROSA BORING LOG 01203314.00.GPJ SCS-SANTA ROSA.GDT 06/28/05

SCS ENGINEERS

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BORING LOG B-11

Phil Johnson
1599 Hampton Way
Santa Rosa, California 95407
Job Number: 01203314.00

Figure:
Appendix A
B-11

Appendix B

Analytical Sciences Report #5060201, dated June 10, 2005

Analytical Sciences

Report Date: June 10, 2005

Stephen Knüttel
SCS Engineers
3645 Westwind Blvd.
Santa Rosa, CA 95403

LABORATORY REPORT

Project Name: **1599 Hampton Way** **01203314.00**

Lab Project Number: **5060201**

This 11 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini, Ph.D.
Laboratory Director

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Petaluma, CA 94952
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TPH Gasoline in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30001	**B-09-W@35.0'**	**TPH/Gasoline**	**ND**	50

Date Sampled:	06/01/05	Date Analyzed:	06/06/05	QC Batch #:	5553
Date Received:	06/02/05	Method:	EPA 5030/8015M		

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30002	**B-10-W@30.0'**	**TPH/Gasoline**	**ND**	50

Date Sampled:	06/01/05	Date Analyzed:	06/06/05	QC Batch #:	5553
Date Received:	06/02/05	Method:	EPA 5030/8015M		

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
30003	**B-11-W@30.0'**	**TPH/Gasoline**	**ND**	50

Date Sampled:	06/01/05	Date Analyzed:	06/06/05	QC Batch #:	5553
Date Received:	06/02/05	Method:	EPA 5030/8015M		

Volatile Hydrocarbons by GC/MS in Water

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30001	B-09-W@ 35.0’	dichlorodifluoromethane	ND	1.0
		chloromethane	ND	1.0
		vinyl chloride	ND	1.0
		chloroethane	ND	1.0
		bromomethane	ND	1.0
		trichlorofluoromethane	ND	1.0
		1,1-dichloroethene (1,1-DCE)	ND	1.0
		methylene chloride	ND	1.0
		trans-1,2-dichloroethene (trans-1,2-DCE)	ND	1.0
		1,1-dichloroethane (1,1-DCA)	ND	1.0
		cis-1,2-dichloroethene (cis-1,2-DCE)	ND	1.0
		2,2-dichloropropane	ND	1.0
		chloroform (THM1)	ND	1.0
		bromochloromethane	ND	1.0
		1,1,1-trichloroethane (TCA)	ND	1.0
		1,2-dichloroethane (EDC)	ND	1.0
		1,1-dichloropropene	ND	1.0
		carbon tetrachloride	ND	1.0
		benzene	ND	1.0
		trichloroethene (TCE)	ND	1.0
		1,2-dichloropropane (DCP)	ND	1.0
		dibromomethane	ND	1.0
		bromodichloromethane (THM2)	ND	1.0
		cis-1,3-dichloropropene	ND	1.0
		toluene	14	1.0
		1,1,2-trichloroethane	ND	1.0
		1,3-dichloropropane	ND	1.0
		dibromochloromethane (THM3)	ND	1.0
		tetrachloroethene (PCE)	ND	1.0
		1,2-dibromoethane (EDB)	ND	1.0
		chlorobenzene	ND	1.0
		1,1,1,2-tetrachloroethane	ND	1.0
		ethyl benzene	ND	1.0
		m,p-xylene	ND	1.0
		styrene	ND	1.0
		o-xylene	ND	1.0
		bromoform (THM4)	ND	1.0
		1,1,2,2-tetrachloroethane	ND	1.0

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30001	**B-09-W@ 35.0'**	**isopropyl benzene**	**ND**	1.0
		1,2,3-trichloropropane	**ND**	1.0
		bromobenzene	**ND**	1.0
		n-propyl benzene	**ND**	1.0
		2-chlorotoluene	**ND**	1.0
		4-chlorotoluene	**ND**	1.0
		1,3,5-trimethylbenzene	**ND**	1.0
		tert-butylbenzene	**ND**	1.0
		1,2,4-trimethylbenzene	**ND**	1.0
		sec-butylbenzene	**ND**	1.0
		1,3-dichlorobenzene	**ND**	1.0
		1,4-dichlorobenzene	**ND**	1.0
		1,2-dichlorobenzene	**ND**	1.0
		p-isopropyltoluene	**ND**	1.0
		n-butylbenzene	**ND**	1.0
		1,2,4-trichlorobenzene	**ND**	1.0
		naphthalene	**ND**	1.0
		hexachlorobutadiene	**ND**	1.0
		1,2,3-trichlorobenzene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.3	102	70 – 130
toluene-d_8 (20)	20.2	101	70 – 130
4-bromofluorobenzene (20)	19.1	95.5	70 – 130

Date Sampled: 06/01/05
Date Received: 06/02/05
Date Analyzed: 06/06/05
Method: EPA 8260B
QC Batch #: 5564

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30002	**B-10-W@ 30.0'**	**dichlorodifluoromethane**	**ND**	1.0
		chloromethane	**ND**	1.0
		vinyl chloride	**ND**	1.0
		chloroethane	**ND**	1.0
		bromomethane	**ND**	1.0
		trichlorofluoromethane	**ND**	1.0
		1,1-dichloroethene (1,1-DCE)	**ND**	1.0
		methylene chloride	**ND**	1.0
		trans-1,2-dichloroethene (trans-1,2-DCE)	**ND**	1.0
		1,1-dichloroethane (1,1-DCA)	**ND**	1.0
		cis-1,2-dichloroethene (cis-1,2-DCE)	**ND**	1.0
		2,2-dichloropropane	**ND**	1.0
		chloroform (THM1)	**ND**	1.0
		bromochloromethane	**ND**	1.0
		1,1,1-trichloroethane (TCA)	**ND**	1.0
		1,2-dichloroethane (EDC)	**ND**	1.0
		1,1-dichloropropene	**ND**	1.0
		carbon tetrachloride	**ND**	1.0
		benzene	**ND**	1.0
		trichloroethene (TCE)	**ND**	1.0
		1,2-dichloropropane (DCP)	**ND**	1.0
		dibromomethane	**ND**	1.0
		bromodichloromethane (THM2)	**ND**	1.0
		cis-1,3-dichloropropene	**ND**	1.0
		toluene	**ND**	1.0
		1,1,2-trichloroethane	**ND**	1.0
		1,3-dichloropropane	**ND**	1.0
		dibromochloromethane (THM3)	**ND**	1.0
		tetrachloroethene (PCE)	**ND**	1.0
		1,2-dibromoethane (EDB)	**ND**	1.0
		chlorobenzene	**ND**	1.0
		1,1,1,2-tetrachloroethane	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		styrene	**ND**	1.0
		o-xylene	**ND**	1.0
		bromoform (THM4)	**ND**	1.0
		1,1,2,2-tetrachloroethane	**ND**	1.0

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30002	**B-10-W@ 30.0'**	**isopropyl benzene**	**ND**	1.0
		1,2,3-trichloropropane	**ND**	1.0
		bromobenzene	**ND**	1.0
		n-propyl benzene	**ND**	1.0
		2-chlorotoluene	**ND**	1.0
		4-chlorotoluene	**ND**	1.0
		1,3,5-trimethylbenzene	**ND**	1.0
		tert-butylbenzene	**ND**	1.0
		1,2,4-trimethylbenzene	**ND**	1.0
		sec-butylbenzene	**ND**	1.0
		1,3-dichlorobenzene	**ND**	1.0
		1,4-dichlorobenzene	**ND**	1.0
		1,2-dichlorobenzene	**ND**	1.0
		p-isopropyltoluene	**ND**	1.0
		n-butylbenzene	**ND**	1.0
		1,2,4-trichlorobenzene	**ND**	1.0
		naphthalene	**ND**	1.0
		hexachlorobutadiene	**ND**	1.0
		1,2,3-trichlorobenzene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.3	102	70 – 130
toluene-d_8 (20)	20.1	101	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Date Sampled: 06/01/05
Date Received: 06/02/05
Date Analyzed: 06/06/05
Method: EPA 8260B
QC Batch #: 5564

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30003	**B-11-W@ 30.0'**	**dichlorodifluoromethane**	**ND**	1.0
		chloromethane	**ND**	1.0
		vinyl chloride	**ND**	1.0
		chloroethane	**ND**	1.0
		bromomethane	**ND**	1.0
		trichlorofluoromethane	**ND**	1.0
		1,1-dichloroethene (1,1-DCE)	**ND**	1.0
		methylene chloride	**ND**	1.0
		trans-1,2-dichloroethene (trans-1,2-DCE)	**ND**	1.0
		1,1-dichloroethane (1,1-DCA)	**ND**	1.0
		cis-1,2-dichloroethene (cis-1,2-DCE)	**ND**	1.0
		2,2-dichloropropane	**ND**	1.0
		chloroform (THM1)	**ND**	1.0
		bromochloromethane	**ND**	1.0
		1,1,1-trichloroethane (TCA)	**ND**	1.0
		1,2-dichloroethane (EDC)	**ND**	1.0
		1,1-dichloropropene	**ND**	1.0
		carbon tetrachloride	**ND**	1.0
		benzene	**ND**	1.0
		trichloroethene (TCE)	**ND**	1.0
		1,2-dichloropropane (DCP)	**ND**	1.0
		dibromomethane	**ND**	1.0
		bromodichloromethane (THM2)	**ND**	1.0
		cis-1,3-dichloropropene	**ND**	1.0
		toluene	**1.6**	1.0
		1,1,2-trichloroethane	**ND**	1.0
		1,3-dichloropropane	**ND**	1.0
		dibromochloromethane (THM3)	**ND**	1.0
		tetrachloroethene (PCE)	**ND**	1.0
		1,2-dibromoethane (EDB)	**ND**	1.0
		chlorobenzene	**ND**	1.0
		1,1,1,2-tetrachloroethane	**ND**	1.0
		ethyl benzene	**ND**	1.0
		m,p-xylene	**ND**	1.0
		styrene	**ND**	1.0
		o-xylene	**ND**	1.0
		bromoform (THM4)	**ND**	1.0
		1,1,2,2-tetrachloroethane	**ND**	1.0

Lab #	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
30003	**B-11-W@ 30.0'**	**isopropyl benzene**	**ND**	1.0
		1,2,3-trichloropropane	**ND**	1.0
		bromobenzene	**ND**	1.0
		n-propyl benzene	**ND**	1.0
		2-chlorotoluene	**ND**	1.0
		4-chlorotoluene	**ND**	1.0
		1,3,5-trimethylbenzene	**ND**	1.0
		tert-butylbenzene	**ND**	1.0
		1,2,4-trimethylbenzene	**ND**	1.0
		sec-butylbenzene	**ND**	1.0
		1,3-dichlorobenzene	**ND**	1.0
		1,4-dichlorobenzene	**ND**	1.0
		1,2-dichlorobenzene	**ND**	1.0
		p-isopropyltoluene	**ND**	1.0
		n-butylbenzene	**ND**	1.0
		1,2,4-trichlorobenzene	**ND**	1.0
		naphthalene	**ND**	1.0
		hexachlorobutadiene	**ND**	1.0
		1,2,3-trichlorobenzene	**ND**	1.0
		Oxygenated Gasoline Additives		
		tert-butyl alcohol (TBA)	**ND**	25
		methyl tert-butyl ether (MTBE)	**ND**	1.0
		di-isopropyl ether (DIPE)	**ND**	1.0
		ethyl tert-butyl ether (ETBE)	**ND**	1.0
		tert-amyl methyl ether (TAME)	**ND**	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.7	104	70 – 130
toluene-d_8 (20)	20.2	101	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Date Sampled: 06/01/05
Date Received: 06/02/05
Date Analyzed: 06/06/05
Method: EPA 8260B
QC Batch #: 5564

LABORATORY
QUALITY ASSURANCE REPORT

QC Batch #: 5553 **Lab Project #:** 5060201

Sample ID	Compound	Result (ug/L)
MB	TPH/Gas	ND
MB	MTBE	ND
MB	Benzene	ND
MB	Toluene	ND
MB	Ethyl Benzene	ND
MB	Xylenes	ND

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
29916	CMS	TPH/Gas		NS	
	CMS	Benzene	9.05	10.0	90.5
	CMS	Toluene	9.09	10.0	90.9
	CMS	Ethyl Benzene	9.36	10.0	93.6
	CMS	Xylenes	28.5	30.0	95.1

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
29916	CMSD	TPH/Gas		NS		
	CMSD	Benzene	9.02	10.0	90.2	0.33
	CMSD	Toluene	9.03	10.0	90.3	0.62
	CMSD	Ethyl Benzene	9.35	10.0	93.5	0.08
	CMSD	Xylenes	28.5	30.0	95.0	0.03

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

QC Batch #: 5564 **Lab Project #:** 5060201

Sample ID	Compound Name	Result (ug/L)
MB	1,1-dichloroethene	ND
MB	benzene	ND
MB	trichloroethene	ND
MB	toluene	ND
MB	chlorobenzene	ND

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.0	100	70 – 130
toluene-d_8 (20)	20.3	102	70 – 130
4-bromofluorobenzene (20)	19.0	95.0	70 – 130

Sample #	Sample ID	Compound Name	Result (ug/L)	Spike Level	% Recv.
30027	CMS	1,1-dichloroethene	29.4	25.0	118
	CMS	benzene	26.4	25.0	106
	CMS	trichloroethene	24.9	25.0	99.6
	CMS	toluene	25.8	25.0	103
	CMS	chlorobenzene	25.1	25.0	100

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.2	101	70 – 130
toluene-d_8 (20)	20.2	101	70 – 130
4-bromofluorobenzene (20)	18.7	93.5	70 – 130

Sample #	Sample ID	Compound Name	Result (ug/L)	Spike Level	% Recv.	RPD
30027	CMSD	1,1-dichloroethene	29.3	25.0	117	0.34
	CMSD	benzene	26.3	25.0	105	0.38
	CMSD	trichloroethene	24.9	25.0	99.6	0.0
	CMSD	toluene	25.7	25.0	103	0.39
	CMSD	chlorobenzene	25.2	25.0	101	0.40

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
dibromofluoromethane (20)	20.2	101	70 – 130
toluene-d_8 (20)	20.1	101	70 – 130
4-bromofluorobenzene (20)	18.7	93.5	70 – 130

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

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Telephone: (707) 769-3128

Analytical Sciences
P.O. Box 750336, Petaluma, CA 94975-0336
110 Liberty Street, Petaluma, CA 94952
(707) 769-3128

CHAIN OF CUSTODY

LAB PROJECT NUMBER: 5060201
SCS ENGINEERS PROJECT NAME: 1599 HAMPTON WAY
SCS ENGINEERS PROJECT NUMBER: 01203314.00

CLIENT INFORMATION		BILLING INFORMATION	
COMPANY NAME:	SCS ENGINEERS	CONTACT:	PHIL JOHNSON
ADDRESS:	3645 WESTWIND BOULEVARD	COMPANY NAME:	JUDITH JOHNSON TRUST
	SANTA ROSA, CA 95403	ADDRESS:	4591 HEATH CIRCLE
CONTACT:	STEPHEN KNUTTEL		ROHNERT PARK CA
PHONE#:	(707) 546-9461	PHONE#:	94928
FAX #:	(707) 544-5769	FAX #:	

TURNAROUND TIME (check one)

MOBILE LAB			
SAME DAY		24 HOURS	
48 HOURS		72 HOURS	
5 DAYS		NORMAL	X

GEOTRACKER EDF: ___Y ___N
GLOBAL ID: _____

COOLER TEMPERATURE
_____ °C

COC

PAGE 1 OF 1

ITEM	CLIENT SAMPLE I.D.	DATE SAMPLED	TIME	MATRIX	# CONT.	PRESV. YES/NO	ANALYSIS: TPH/GAS/BTEX & MTBE EPA 8015M/8260	TPH DIESEL / MOTOR OIL EPA 8015M	VOLATILE HYDROCARBONS EPA 8260 (FULL LIST)	EPA 8260 Full List + Oxy / Fuel Additives	BTEX & OXYGENATES + PB SCAVENGERS EPA 8260B	OXYGENATED FUEL ADDITIVES EPA 8260M	CHLORINATED SOLVENTS	SEMI-VOLATILE HYDROCARBONS EPA 8270	TRPH / TOG SM 5520F / EPA 418.1M	PESTICIDES / PCB'S EPA 8081 / 8141 / 8082	CAM 17 METALS / 5 LUFT METALS	TOTAL LEAD		COMMENTS	LAB SAMPLE #
1	B-07-W@35.0'	1 JUNE 05	1100	W	4		X			X											30001
2	B-10-W @ 30.0'	1 JUNE 05	1400	W	4		X			X											30002
3	B-11-W @ 30.0'	1 JUNE 05	1630	W	4		X			X											30003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					

SIGNATURES

RELINQUISHED BY:		DATE:: 2 JUNE 05	TIME: 970
RECEIVED BY:		DATE::	TIME:
RELINQUISHED BY:		DATE::	TIME:
RECEIVED BY:		DATE:	TIME:

RECEIVED BY LABORATORY:
SIGNATURE
2 June 2005 9:40
DATE TIME

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Analytical Sciences